JOURNAL
OF AMERICAN INSURANCE

FEBRUARY 1960 Vol. 36—No. 2

Skiing Soars Into Big Business

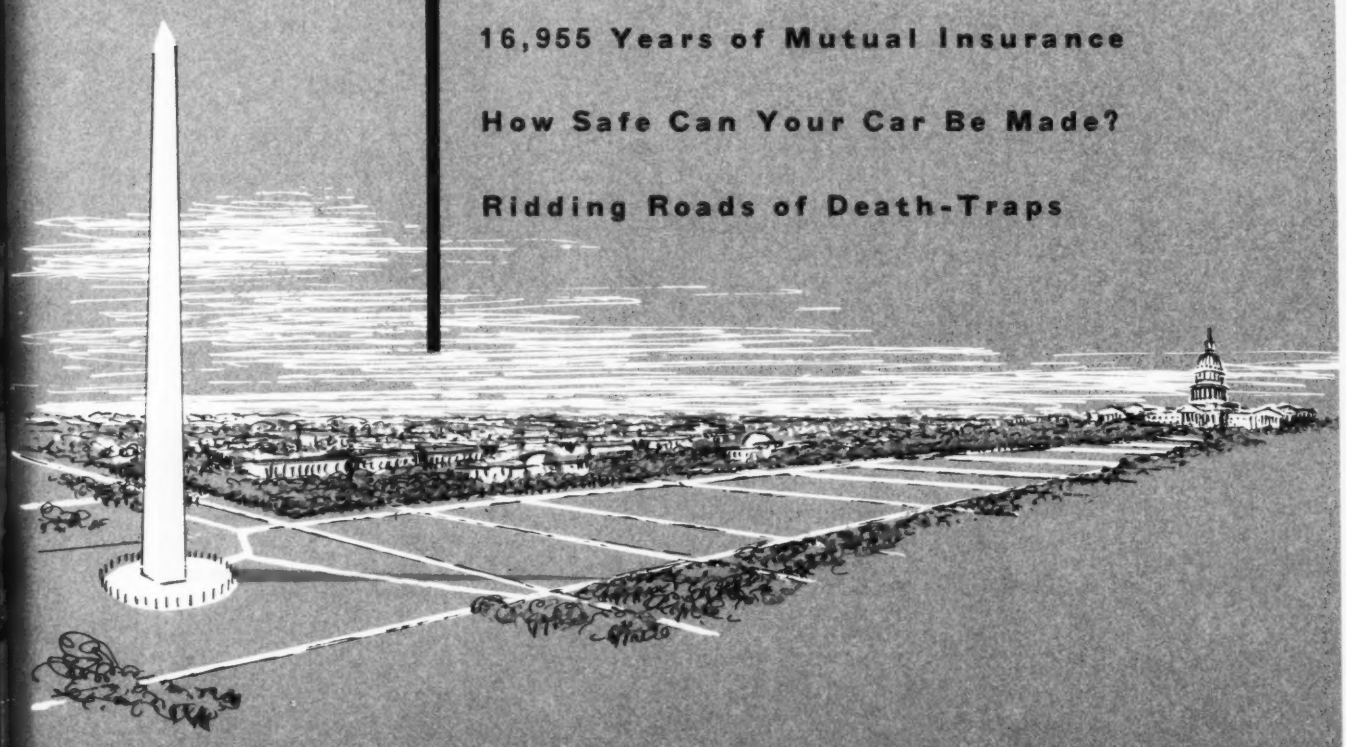
New Health Protection History

Balm for Business Interruption Losses

16,955 Years of Mutual Insurance

How Safe Can Your Car Be Made?

Ridding Roads of Death-Traps



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1 *This Skyrocketing Skiing*

5 *Health Boon for Uncle Sam's Staff*

8 *Hodgepodge on the Highways*

10 *"Closed Until Further Notice"*

14 *Security for Art Treasures*

16 *100-Year Honor Roll of Mutual Insurance*

18 *Inside Argonne National Laboratory*

22 *Saga of a Comeback*

24 *Safe-Proofing Auto Passengers*

27 *From Our Annals—George Washington*

28 *Look, Mariners: No Ice*

30 *Roads for Fewer Wrecks*

33 *Close-Ups of Our Commissioners—Smith*

FRONT COVER—*Washington Monument*

BACK COVER—*Proposed National Cultural Center*

OUR COVERS

This is the 75th anniversary month of the dedication of Washington Monument (front cover) on February 21, 1885. It is also the 228th anniversary of Washington's birthday, February 22, 1732. Hence it is a just occasion for paying double homage to the Father of His Country.

Appropriately, a monumental project fulfilling a Washington concept this month will advance toward reality in the nation's capital. It is the new National Cultural Center (back cover). National leaders will meet in Washington to begin a fund campaign for the project, chartered by the 85th Congress in 1958.

Thus, 171 years after Washington first expressed the idea, the nation is to have a great monument symbolic of the cultural maturity of a great nation. In fact, Washington himself initiated action toward such a goal when in 1789 he commissioned Major Pierre L'Enfant, the French engineer, to make the new capital a cultural as well as a civic center. ⊙

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Bob Bourgon

THIS SKYROCKETING SKIING

It has 5 million enthusiasts spending many millions, with a Squaw Valley climax this month.

"THERE'S NOTHING TO IT; it's downhill all the way."

For an appraisal of skiing, that taunt by a husband to his reluctant wife at the top of the ski run rates as the understatement to end all understatements.

In business alone, not to mention thrills and spills, skiing has now zoomed into a multi-million-dollar extravaganza. Annual insurance premiums run into five figures at single ski resorts. There are 24 major ski spots in Vermont alone and no less than 5 million enthusiasts of the sport the country over. An estimated $160 million will be spent this year just for skis, skiing equipment, clothing and accessories.

This month the climax will come with the VIII Olympic Winter Games February 18 to 28 at Squaw Valley, near Lake Tahoe on the northern California-Nevada border.

The setting encompasses a $12-million state-federal investment which will become part of the state park system after the games. Twenty of the larger buildings will be permanent. And over all will be the spell of Disneyland dazzle, for Walt Disney is chairman of the pageantry committee.

Spectacular—and protective, though unseen by the expected 35,000-a-day spectators, is the multi-million-dollar insurance program which Johnson & Anton, Inc., San Francisco, set up for the Organizing Committee of the Games.

Not one, but many types of businesses had to be protected against uncertainties and risks. Versatility of modern-day insurance thus has

full play at Squaw Valley, for there are coverages on property, public liability, property damage liability, medical malpractice, innkeepers' and garagekeepers' legal liability, fidelity, money and securities and depositor's forgery, foreign liability, aviation, non-ownership, plate glass, boiler and machinery, and workmen's compensation.

Property alone is insured substantially in excess of $3 million. One single item is a ski chair lift insured for approximately $150,000. In addition there are furnishings, fixtures and equipment amounting overall to approximately $1,500,000 which are insured either by a virtually all-risk property floater or an automobile material damage policy. Additionally, there is approximately $1,750,000 of direct damage insurance applicable to buildings already acquired and used by the committee.

Coverage on the Avalanche Control and Snow Safety Program at Squaw Valley, under jurisdiction of the U. S. Forest Service, is believed to be unprecedented as a private insurance activity.

Sport 'Has Everything' for Popularity

Skiing, though centuries old, has been a major event in the Winter Olympics only since 1924. Its rise to the status of a universally popular family sport is even newer than that. Many centuries ago the Scandinavians were using it as a vital means of transportation, and in the Middle Ages the Swedes adapted it to wartime uses. But it was 1904 before it had caught on in America with the formation of the U. S. National Ski Association. And it took the depression-days Winter Olympics of 1932 at Lake Placid, New York, to launch skiing into the popularity it enjoys today.

Skiing's skyrocketing public favor is no mystery to the enthusiasts who claim it has everything — thrills, exhilaration, relaxation, style, togetherness and romance. If the all-important snow is overlooked by Nature, there are now even artificial snow-making machines which can blanket a hill with two or three feet of snow in a few hours.

A fine skier's-eye view of the industry can be had from an area such as Mount Mansfield, Vermont, highest point in the Green Mountains and famous even in the pre-skiing days for its Smugglers Notch. One of the mountain's towns —Stowe—now claims to be the ski capital of the East. The mountain has ski lifts with a capacity of 4,885 skiers an hour.

Stowe's permanent population of 1,720 persons was swelled last winter by 100,000 visitors whose average stay was four days. Stowe has more than 600 lodges, motels, inns, dorms and chalets with beds enough for 3,000 at one time. This winter trade brings in about $2 million in business—wealth which Stowe never even dreamed of in the heyday of smuggling through the Notch. Summer trade produces another half million in business.

Ski Insurance Covers Many-Sided Business

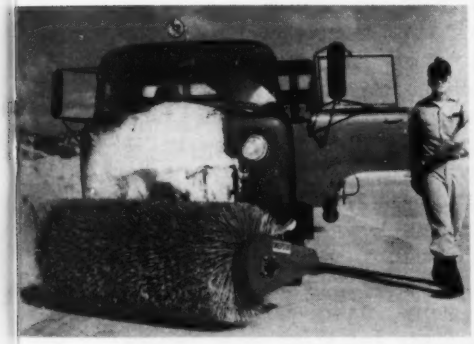
Skiing's business dimensions can be judged from the fact that an area operator such as the Mt. Mansfield Company at Stowe carries public liability insurance up to $1 million and $25,000 coverage for damage to other people's property. In addition there is an all-risk floater covering property damage on all lifts, and fire and extended coverage on all buildings owned by the company. To cover machinery breakdowns, there is insurance which not only reimburses the operators for damage to the equipment but also, through a business interruption clause, takes care of any loss of income occasioned by the breakdown.

Claims to fame—and business—are put forward by countless other ski areas, with the number growing every year. Cranmore Mountain, as one example, has no Smugglers Notch, but it does have its Skimobile development with lifts, slopes and trails east of North Conway, New Hampshire. These winter weekends the area will have around 1,000 parked cars in its lots and between 3,000 and 4,000 people on the slopes, at the summit or around the dining rooms, shops and first-aid room.

Here is an establishment whose outlay for insurance alone—including public liability, mechanical breakdowns, plate glass, fire-wind, property damage, and bonds and workmen's

Bob Bourdon

View of the 3,320-foot-high chair lift on Spruce Peak, Stowe, Vermont, claimant to "ski capital of the East." Insurance in many varied forms and big sums protects ski-area equipment and the people.



A sweeper sample of the many pieces of equipment, covered by property insurance in excess of $3 million, in use at the Squaw Valley site, Winter Olympic Games. Skiing attained Olympics status in 1924.

→

Eyes of the world will be turned toward Squaw Valley Alpine courses and rinks this month with some 1,000 athletes from 35 nations competing in skiing and other events at a site representing a $12 million state-federal Olympics investment.

William S. Briner

←

A section of Squaw Valley's Olympic Village where all athletes and officials are to be together for first time. Shown is athletes' reception center, a side view; one of four dormitories is in background.

compensation on employees — comes to more than $20,000 a year.

Most popular lift at this area is the Skimobile, a cable-operated chain of small cars, but there are also a Pomalift and a double chairlift, all requiring maintenance and operating crews. Also at work or always on the alert are a bulldozer, two truck plows, a jeep plow, two dump trucks, two snow cats and a "weasel." An intercom telephone system covers the entire mountain.

One of the more recent business facets of the skiing surge is the real-estate activity around an area such as Cranmore. Here as elsewhere many skiing families are investing in property for more convenient enjoyment of skiing. North Conway real estate records show that more than 40 homes, ranging in cost up to $40,000 each, have been built in the area by ski families in the past few years.

Diverse Attractions Now Lure Non-Skiers

Lending still another touch of New England lavishness is Vermont's Mount Snow. Some 14,000 people rendezvous there on a typical weekend in the winter, and for the non-skiers there are such attractions as dog-sled rides or outdoor swimming in a heated pool surrounded by a 14-foot glass windbreak.

For an ally and benefactor in its booming business, skiing has no stauncher friend than mutual insurance. Mutual insurance from its beginnings in 1752 has been purposed to prevent accidents and losses and provide protection at cost.

Preventive maintenance is, in fact, one of the basic tenets in the operation of a ski area. While the courts hold that skiers themselves must assume a certain amount of risk, area operators are liable for accidents which can be traced to negligence on their part.

At Stowe, Vermont, for example, preventive maintenance by the Mt. Mansfield Company is virtually year 'round. Between seasons, when the ground is bare, much time and expense go into removing stumps, rocks, hummocks or other hazards which might cause a skier to meet up with an accident. Inspection of lifts for possible frayed cables or worn parts is only part of the precautionary routine at Mt. Mansfield. Each year the company moves all cable connections, such as where chair lifts attach, one foot to a new location, thus eliminating the possibility that rust might start at these points and go unnoticed.

Such preventive maintenance is both voluntary and exemplary, but three states already have moved in to regulate the construction and operation of all ski lifts within their borders. Washington is the most recent, with a law which went into effect June 11, 1959; California and New Hampshire previously had such laws.

Accident Rate Is Low for a Thrill Sport

Laws or no laws, the accident rate for skiing is surprisingly low. At least it is lower than it was a few years ago, even though there are far more skiers. John King, leader of the ski patrol at Stowe, Vermont, and chairman of the Ski Patrol, U. S. Eastern Ski Association, credits the improvement to better education of the public through organized skiing, higher attendance in ski schools, and the use of release bindings on skis.

Last year the Mt. Mansfield Company had a record of one accident per 2,500 rides and only one fracture per 7,143 rides, considered to be a very low accident rate. The company sold approximately 1 million rides.

King's experience has been that during a busy two-day weekend at Stowe there may be 15 accidents, mostly sprains, scrapes and bruises, among the 5,000 to 6,000 skiers.

The patrol which he heads at Stowe consists of 15 paid professional skiers supplemented by volunteers in peak periods. They are constantly on the trails and slopes. At the close of the day they "sweep" all slopes and trails to be certain there is no skier still out and possibly in trouble.

Danger Adds the Zest to Assure Popularity

Most ski accidents happen between 2:30 and 4 p.m., indicating that the skier, reluctant to give up, was fatigued beyond the limits of the co-ordination and physical fitness the sport demands. Skiing would have an even better safety record, King believes, if skiers stayed within their abilities, knew the terrain and trail, and didn't go beyond what their physical condition could take.

Of course, being "downhill all the way" doesn't make skiing 100 per cent safe. But as the Latin proverb put it, "without danger the game grows cold." In 1960, at least, there is no cooling off in sight for skiing in the U. S. ⊙

Long-sought group protection for 2 million federal employees enlists private insurance.

U.S. Army

HEALTH BOON FOR UNCLE SAM'S STAFF

By Senator Frank Carlson

A NEW ERA of security-assured independence will open for 2,300,000 federal government employees and their families this year in the anniversary month of Independence Day.

On July 1 they'll come, for the first time, under the protection of a new, government-wide group health insurance program, comparable to those already serving some 90 million workers in U. S. private industry and their dependents. This will be made possible by the Federal Employee Health Benefits Act, passed by the 86th Congress just before adjournment last summer.

Heretofore, the employees and their families, about 4½ million people in all, have had to arrange their own health plans, and many have been carrying inadequate coverage. But with the participation of such a large group, they now should be able to get broader coverage for their money. And, certainly the biggest boon to most of them, the government will assume half the cost of their insurance.

While the government will share the cost, just as many private employers are doing nowadays, it is notable that it did not seek to set up a big new bureaucratic branch to run its own health insurance program. In fact, such a possibility was never even considered—a tribute, I think, to the job private enterprise has done in providing health insurance benefits to 123 million Americans who are covered today.

This program is expected to cost about $214 million a year. Thus, the cost to the taxpayers will be about $107 million annually. Of this, no more than 1 per cent will go for administrative expenses—again, because private insurers will be running the program.

All federal employees are eligible to participate—public health workers, post office employees, Congressmen and their staffs, the employees of every government department, agency, bureau and office in Washington, in all 50 states, in U. S. territories, and workers stationed overseas. It has been estimated that 75 to 90 per cent of them will sign up.

They'll have a choice of the following plans:

(1) A regular cash indemnity policy with an insurance company. It will reimburse the employee for hospital and medical costs incurred.

Lainson Studio, Denver

ABOUT THE AUTHOR:

Senator Carlson of Kansas is the ranking Republican member on the Senate Post Office and Civil Service Committee's subcommittee on insurance and health, which conducted the Senate hearings on the Federal Employee Health Benefits Act. He has championed such legislation during his nine years in the Senate.

Among federal employees who will benefit from new health insurance program are these, waiting for buses at Pentagon's underground station. Clerk in Army personnel records section, part of Pentagon's miles of files, is shown on the preceding page.

Health Boon

The insurance carrier, chosen by the Civil Service Commission in December from about a dozen of the nation's largest, will be Aetna Life Insurance Company. Aetna will reinsure with all other qualified companies wishing to participate.

(2) A service-type plan, such as Blue Cross-Blue Shield. It generally makes a settlement with the hospital or doctor directly.

(3) An existing group health insurance program operated by one of the national government employee organizations, such as the National Federation of Post Office Clerks, or by the agency for which the employee works. Such plans have been set up by the FBI, Central Intelligence Agency and Office of Civil and Defense Mobilization, for example. Some of these plans have been in operation for a number of years, providing hospital and medical coverage for thousands of employees at cost.

(4) Comprehensive group-practice prepayment plans, such as those offered by Group Health Association in Washington, the Kaiser Foundation on the West Coast or the Health Insurance Plan of Greater New York, or individual-practice prepayment plans. Many thousands of federal employees also are covered by these programs.

In every case, the principal effect of the new law will be that the government will now pay half of each employee's insurance premiums. If an employee has been paying $10 a month for his coverage, for example, he now will have to pay only half that. Since half our federal employees make less than $4,800 a year, and some half a million earn less than $4,000, it's clear what a help this will be to them.

It may be that rather than continuing his present coverage at half the cost, the employee will choose to increase his protection, perhaps paying $15 a month for it. He'll improve his $10 coverage by a third, yet pay only $7.50. And many employees now facing the terrible risks of illness without any insurance at all will be able to buy group coverage at a price they can afford.

Naturally we had to set limits on the amount the government will match under the new law. For instance, for a single employee the government will pay $1.25 to $1.75 per pay period (biweekly). For an employee plus his family, the government's share can range between $3 and $4.50 biweekly. That's for a policy under the cash indemnity or service benefit plans. The employee is free to choose the level of coverage he wants, and the government, within these limits, will match his payments.

For members of employee group plans or prepayment programs with set subscription charges, the government will pay up to $2.50 a pay period for a single person and $6 for a family as its half.

Law Took Years of Effort, Compromise

The employee's half will be deducted from his paycheck. His "half" actually may be more than half his total premium if he chooses to buy more extensive coverage than the maximums prescribed in the new law.

It took many years of effort to achieve the passage of this legislation. Since 1947 federal employee health insurance bills had been considered by the Congress, but they got nowhere because the groups involved could never agree on the provisions. Finally, though, agreement was reached among the employees, the Adminis-

tration, the insurance industry, Blue Cross-Blue Shield, the American Medical Association, American Hospital Association and the various employee group health plans. Our subcommittee, headed by Senator Richard Neuberger of Oregon, held extensive hearings last April, and in July the Senate passed the bill 81 to 4. The House then held its hearings, made some changes in the bill, and approved it 383 to 4. A conference committee ironed out the differences between the two versions, and the final bill, cut down somewhat from the original in costs, was signed into law by President Eisenhower on September 28.

Some of us in Congress and the Administration tried to cut the costs still further, thinking of our already gigantic national debt and the effect of new spending on the federal budget. We thought $80 million as the government's share of this plan would have bought some good benefits. But with some groups asking for $145 million and more, there had to be some compromising. The Administration also fought for years to hold the government's share to one-third of the total cost, while the employees' organizations thought the U. S. should pay two-thirds. So the final 50-50 cost sharing was a compromise too.

Plan Comparable to Private Industry's

No one connected with the bill would even pretend it is perfect, or that it will work without some complaints and adjustments. But in view of the deep-rooted disagreements over a federal employee health insurance plan during the past 12 years, I think all parties are pretty well satisfied that this is a good, workable law. At least the government—the nation's largest employer—has recognized its obligation to its employees, and is now offering them a health plan every bit as generous as they'd find in most private industries.

With medical and hospital costs what they are nowadays, few families feel they can be without a health plan of some sort. Along with the retirement program, the group life insurance plan adopted four years ago and generous sick leave provisions, this health insurance program is probably the greatest "fringe benefit" our civil servants could get. Some 27 per cent of the government's $13 billion annual payroll item already has been for fringe benefits. Financing half of this new health plan will boost those figures still higher. Nevertheless, if the government is to compete with private business for competent, high-caliber employees, it cannot lag so far behind industry in the insurance protection it offers. This unfortunately has been true for some years. Now this new law goes far toward alleviating that situation.

This legislation does not include retired government employees and their dependents. However, bills are being considered this session which would provide them with a health plan too.

Reserves Needed to Avoid Rate Increases

There is another omission in the new law that I think will have to be watched: It does not require the accumulation of a sufficient reserve to cover the future rises that must be expected in hospital and medical costs. To keep boosting the rates for this program to cover these rising costs would be unfair both to employees and to the taxpayers who pay the government's share. Yet that is exactly what will have to happen, if past experience is any indication.

The people taking Blue Cross in New York City, for example, had their rates boosted by a third in 1952, another 22 per cent in 1958, and a whopping 26½ per cent last year. Needless to say, there are a lot of unhappy Blue Cross subscribers in New York City. Other plans weren't all that bad off; nevertheless, rates have been rising constantly, and the experts say we can expect hospital costs alone to go up at least 5 to 10 per cent for the next 8 or 10 years. It takes a good reserve to cover increases like that without having to ask the policyholders for higher premiums every year. Yet this law requires setting aside of 3 per cent of the premiums at the most for reserves. So when these cost increases come, as they will, the only solution will be to raise the insurance premiums or cut down on benefits. Either way, our federal employees are going to get hurt.

It is my hope that once the plan begins operating and we see how it is working out, we can hold new hearings and, if necessary, amend the present bill to fit the needs. For the time being, though, we have a program we can be proud of, and our government employees will rest a lot easier come July 1, knowing they are protected by health benefits as generous and reasonable as they'd find anywhere. Adequate insurance means peace of mind, and it's time our federal government workers got their fair share of both. ⊙

HODGEPODGE ON THE HIGHWAYS

Driver's license examinations are a jumble of conflicting standards, gaps and inadequate screening.

IN ALL SERIOUSNESS, the sheriff was explaining to a visiting authority on driver licensing that he gave all applicants "a real good eye test."

"I take every one of them over to this window and ask, Can you see that birdbath out there? If they say yes, I know they must have good eyes."

This incident, which really happened, confirms what safety experts have been saying for years: Examinations for the driver's license are little better than a joke in some states because of inadequate laws and poorly trained examiners.

A survey of driver license requirements nation-wide reveals an appalling lack of uniform standards and screening procedures to keep unfit drivers off the road.

The survey, conducted by New York University's Center for Safety Education under a grant from Shell Oil Company, shows only 13 states test driver license applicants for "tunnel vision," a common eye defect that blots out objects approaching from the side. Only 23 states test for depth perception, the faculty that enables a driver to judge distances.

Furthermore, these tests are given only once for a lifetime of driving in most states. Fewer

VISUAL REQUIREMENTS FOR THE DRIVER'S LICENSE

IN 50 STATES AND DISTRICT OF COLUMBIA

REQUIREMENT	STATES TESTING	MINIMUM STANDARDS USED
Visual Acuity	All 51	*Two Eyes* / *Without Glasses* / *With Glasses* 20/30 — 4 states — 1 state 20/40 — 35 — 29 20/45 — 1 — 1 20/50 — 7 — 9 20/60 — 1 — 5 20/70 — 3 — 6 SYMPOSIUM SUGGESTION: Visual acuity of, or correctable to, 20/40 vision in one (the better) eye.
Color Vision	44	Most states test for differentiation of red and green, some add amber and yellow. SYMPOSIUM SUGGESTION: No license should be refused because of color blindness alone. However, it is strongly recommended that the shape, size, position and color of traffic lights be standardized.
Field of Vision	13	Minimum acceptable ranges vary from 90° to 150° of side vision with both eyes. SYMPOSIUM SUGGESTION: Minimum should be 70° side vision in each eye or 140° with both eyes.
Depth Perception	23	Both the kind of test and standards vary widely. SYMPOSIUM SUGGESTION: Depth perception is extremely important in driving, and more research is needed to establish uniformly acceptable tests.

NON-VISUAL REQUIREMENTS FOR THE DRIVER'S LICENSE

IN 50 STATES AND DISTRICT OF COLUMBIA

REQUIREMENT	STATES WITH MINIMUM STANDARDS	MINIMUM STANDARDS USED
Physical Defects *(Loss of limbs, paralysis, etc.)*	43	Sixteen states list specific defects and corrective devices required, such as steering knob, automatic signal, automatic shift lever, solenoid starter, hand dimmer switch, left-foot accelerator, and hand-operated throttle, brakes and clutch. Twenty-seven other states have a general requirement regarding devices to compensate for disabilities. SYMPOSIUM SUGGESTION: One arm should be normal, with normal lower extremities and suitable operational devices or, one leg normal with normal arms.
Hearing	40	Tests and standards vary widely. Most states require an outside rear view mirror for drivers with impaired hearing, but hearing aids are almost never required. SYMPOSIUM SUGGESTION: Spoken voice test using standard test words should be used. Minimum requirements: 50 per cent of test words repeated from 5-foot distance. On failure to pass, applicant should be required to take an audiometer evaluation test and passed on by a committee of physicians. Regular re-examination should be required for persons more than 65 years of age.
Alcohol and Drugs	All 51	None. In most states the only source of information is the answer to a question on the application blank. SYMPOSIUM SUGGESTION: Better controls are needed over the use of antihistamines, sedatives and other commonly used drugs that may harmfully affect driving.
Age	All 51	Sixteen is the minimum age for the driver's license in 37 states. Two grant licenses at age 14, nine at 15, and one each at ages, 17, 18 and 20. Only nine states require periodic re-examination for older drivers; one state at age 65, five at age 70, one at age 75 and two at age 80. SYMPOSIUM SUGGESTION: Sixteen years as a minimum. Re-examination should be required for older drivers.

Source: New York University. Recommendations are those made at the Center for Safety Education by a symposium of medical experts.

than half require any kind of re-examination for renewing driver licenses. Of those that do, nine begin re-testing only at age 65 or older.

The majority of motorists in at least 30 states continue driving year after year simply by filling out a renewal blank and dropping it in the mail. Probably only California and North Carolina provide anything resembling a complete re-examination program, including tests for vision, rules of the road, traffic signs and driving.

Although all states can refuse to license alcoholics, drug addicts and the mentally disabled, there is almost complete lack of screening other than a question on the license application form. Yet National Safety Council surveys reveal that a drinking driver is involved in at least 30 per cent of all fatal auto accidents. Reports from Maryland and elsewhere indicate the actual figure may be 50 per cent or higher.

Admittedly, it would be impossible to ferret out all alcoholics and drug addicts by a simple test such as those designed to test vision. But something certainly can be done to take them off the road when apprehended.

One effective step, recommended in the insurance industry's Program for Responsibility on Our Highways, is a law requiring suspected drunk drivers to take a chemical test for intoxication or forfeit their licenses. Results of the test would be admissible court evidence, and persons convicted three times of drunkenness or possession of narcotics would lose their right to drive.

Another recommendation, now being considered by eight northeastern states, is an enforceable system that will hold drivers responsible for traffic violations committed anywhere in the eight-state area.

Bad driving is now the nation's biggest accident problem. It is likely to remain so until all states take their driver licensing programs out of the birdbath stage. ⊙

'CLOSED

D UNTIL FURTHER NOTICE'

When disasters cut off business, modern insurance protects against loss of earnings.

ABOUT FOUR MONTHS AGO, two midwestern businessmen saw their companies go up in smoke—plant, machinery and inventory burned out.

One plant is now "closed until further notice." The other is back in operation despite a property loss seven times as large. The story of these two struggles to survive pinpoints a hard truth: Loss of income, credit, customers and employees following a disaster can ruin the business which fails to insure its earnings.

Yet fewer than one out of four businessmen carries any form of business interruption insurance. Many have never even heard of it, especially among the small retailers, manufacturers and service firms that need it most.

←

St. Louis Arena, hit by a tornado last February 10, suffered a business interruption loss of $100,000 during four months of repairs. Lost business included the championship welterweight bout between Don Jordan and Virgil Akins. Roller rink next door was not rebuilt. The toppled antenna (left) knocked station KTVI-TV off the air eight hours, and made several apartments uninhabitable for weeks. All these indirect losses could have been covered by business interruption insurance. *Wide World*

The need is well illustrated in the cases of the two manufacturers burned out last October and November. One had built up a thriving trade supplying doors and other fixtures to the mobile home industry. As his business expanded, he built a combination manufacturing plant, warehouse and sales office, defraying part of his expenses by renting space to two other suppliers.

He insured the building and contents, but did not insure the thing the company existed to produce—its earnings. He estimates the fire cost him $65,000 to $70,000 in direct property loss, but the indirect loss was even more disastrous. His fire insurance coverage proved inadequate to pay full replacement costs. Loss of the building halted the rent he had been receiving from his two tenants, and destruction of his machinery and inventory cut off his earnings from sales as well.

With adequate funds, he might have been able to weather the delays until production could be resumed, but indirect costs proved too high.

"I took stock of the predicament and found I had no way of meeting my contracts for doors, so I sold out that part of the business to a competitor," he told the *Journal*. "It seemed the best thing to do."

He hopes to rebuild this spring. Meanwhile, he is concentrating on maintaining his contacts in the mobile home industry by handling a limited stock of fixtures in his home.

The other burned-out businessman, a manufacturer of steel wool, faced an equally bleak prospect when fire swept through his rented

plant and destroyed $500,000 worth of machinery, supplies and finished product. In addition to unfilled contracts, he also had a number of salesmen faced with loss of commissions for an indefinite period. The steel strike threatened to extend the period of inactivity by making raw materials unavailable.

However, he had one advantage that proved decisive in putting his company back in business —an adequate insurance program that covered not only property losses, but loss of earnings as well. He had supplemented the firm's fire and extended coverage insurance with a business interruption policy.

Chicago Daily News

Insurance Aid Reopens Fire-Closed Doors

With this assurance of financial backing, the manufacturer quickly set up a temporary warehouse, salvaged two packaging machines from the ashes, and ordered them repaired on a round-the-clock basis. He was able to salvage a small amount of finished steel wool also, and persuaded a competitor to make some more for him.

Two months after the fire, he had cleared away the debris from the plant site and put a temporary roof over the walls left standing in one wing. The firm is now back in production on an emergency basis while the rest of the plant is being rebuilt.

Business interruption insurance is paying the cost of operating the temporary warehouse, the extra cost of repairing the machinery on a rush basis, and the cost of putting a temporary roof over the damaged plant, since all these things helped to reduce the loss. In addition, the policy will pay the manufacturer for his loss of profits during a total suspension of business for one month and partial suspension for several additional months.

Perhaps most important of all, insurance is paying the manufacturer's salesmen the difference between their normal commission earnings and the reduced amount they are able to earn with limited inventories. This has enabled the owner to hold his organization together under circumstances that might otherwise have forced his employees to find other jobs.

Basically, a business interruption policy protects against the same hazards covered by the standard fire and extended coverage policy: Fire, lightning, windstorm, hail, smoke, explosion, riot and vehicle damage. The difference is that fire insurance pays for property damage, while business interruption insurance gives separate coverage against losses that follow a disaster: Loss of income from interrupted sales or service, loss of production because of damaged buildings and machinery, extra expenses incurred as a result of the disaster, and payroll expenses needed to retain key personnel.

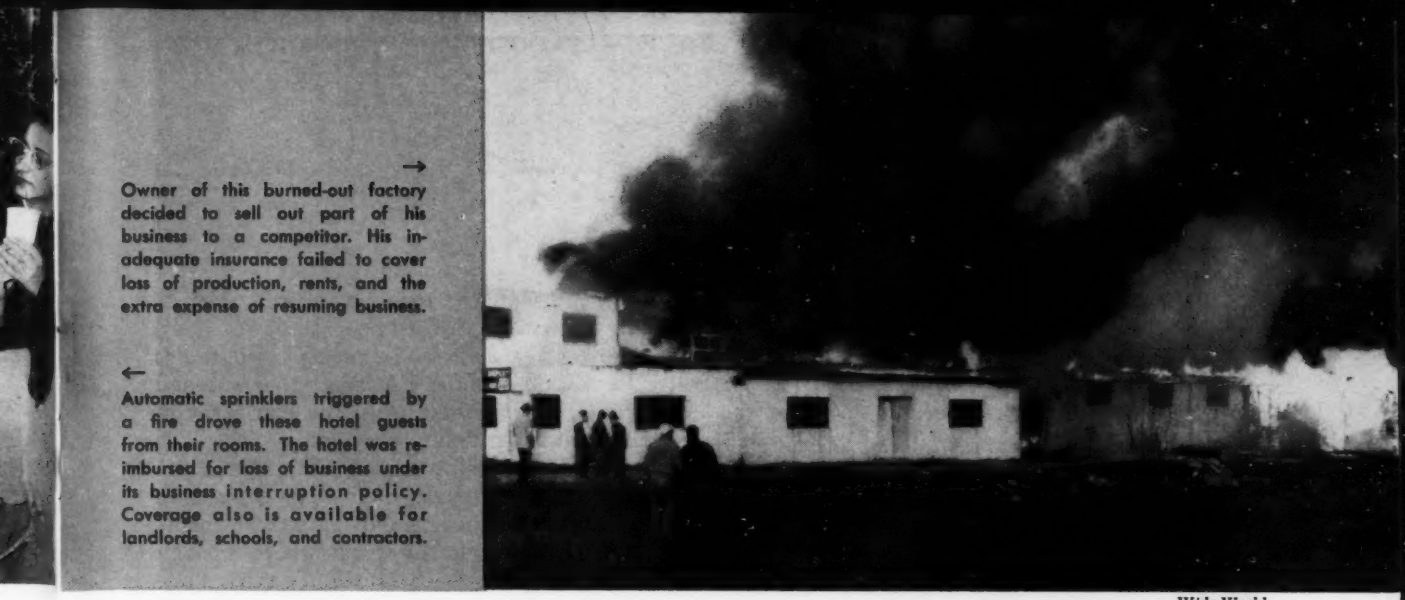
This indirect cost often exceeds the property loss, since even slight damage in a vital spot can shut down an entire factory or store. In one recent example, a large gas-heated oven was damaged in a lithographing plant. The damage cost $15,000 to repair, but lost time caused a business interruption loss of $60,000.

In determining how much insurance to buy, a businessman should consider how long it would take him to get back in business if his buildings, equipment and inventory were destroyed.

Some Things Can't Be Replaced Overnight

Surveys show it takes about four months, on the average, for a retail store to resume sales following a total loss. Rebuilding a factory or multi-story mercantile building requires six or seven months for the first floor and two or three months for each additional floor. Replacing special machinery can cause lengthy delays even after the building is completed.

Some merchandise, such as cheese, cured meats and wine, must be seasoned or aged for a considerable time before it can be marketed. Firms making or selling this type of



→
Owner of this burned-out factory decided to sell out part of his business to a competitor. His inadequate insurance failed to cover loss of production, rents, and the extra expense of resuming business.

←
Automatic sprinklers triggered by a fire drove these hotel guests from their rooms. The hotel was reimbursed for loss of business under its business interruption policy. Coverage also is available for landlords, schools, and contractors.

Wide World

product could require several months to replace destroyed stocks. This delay also is covered.

Seasonal variation in sales is another factor to be considered. Adequate coverage requires enough insurance to cover the loss that might be expected if sales or production were suspended during the busiest season.

For example, consider a merchant in a building that could be replaced in six months. About 60 per cent of his annual sales are made in the six months from June to January, and his gross earnings last year were $120,000. In order to cover a possible shutdown of six months, he would need to insure 60 per cent of $120,000, or $72,000. Even if the firm is not producing a net profit, its gross earnings need to be protected to pay the bills.

New Policies Are Simple and Confidental

Of the several kinds of business interruption policies available, the most widely used is called a "gross earnings form." It has few exclusions, gives blanket coverage and does not require the insured to disclose details of his profits, expenses and executive payroll. Recovery is based on the firm's reduction in gross earnings as a result of an insured peril, minus those expenses which do not continue during the suspension of business. However, extra expenses incurred as a result of the disaster are covered if they help reduce the loss, as in the case of the steel wool manufacturer.

Businesses that must find some way to continue serving their customers, even at a loss, sometimes find it advantageous to carry "extra expense insurance" in place of or in addition to the gross earnings type of business interruption policy. Extra expense insurance is specially tailored to reimburse banks, laundries, dry cleaners, bottling plants, churches, hospitals and other service-type firms for the extra costs of operating under emergency conditions.

Other special types of business interruption policies include those designed to protect schools against loss of tuition fees, landlords against loss of rents, and contractors against construction delays caused by disaster.

It is even possible for a businessman to insure other people's property under some circumstances. For example, a manufacturer whose finished product goes to a single customer or who depends primarily on one supplier can insure himself against loss of earnings as a result of damage to the other party's facilities. Likewise, a firm may insure against delays caused by failure of heat, light and power as a result of any of the insured perils.

Although these policies differ in form, their aim is the same—to help the insured get back into business as quickly as possible, with his financial standing unimpaired by the disaster. With that aim in mind, insurance representatives often serve as unofficial consultants in helping a disrupted company get relocated, conduct salvage operations, and take any other steps necessary to save the business.

This insurance assistance, financial and otherwise, can spell the difference between a business "temporarily interrupted" and one "closed until further notice." ⊙

SECURITY FOR ART TREASURES

Protecting priceless masterpieces calls for utmost in loss prevention practices.

WHEN ITS MILLION-DOLLAR masterpiece came home from New York in a freight car, safe and sound, the Art Institute of Chicago heaved a sigh of relief, figuratively speaking, and placed the prized possession back on its wall forever.

Sunday Afternoon on the Island of La Grande Jatte by Georges Seurat had barely escaped destruction or serious damage in the fire at the "fireproof" New York Museum of Modern Art that spring of 1958. The loan to the museum's Seurat exhibition, ironically, was the one and only loan of all time for the painting under terms of its 1926 bequest.

The fire, which killed one person, injured 30 and ruined several valuable paintings, was only one of the hazards the Seurat survived on its historic visit to New York. For packing, shipping and showing an irreplaceable work of art is a test of every loss prevention practice known to specialists, including insurers, whose business is preventing losses.

In this case, the insured value at stake was $1 million. The Art Institute's entire collection has been valued by some experts at nearly $2 billion, and protecting it on its home premises is as vital as insuring its safety in transit. With its treasures spread over 17 acres of building, the Chicago Art Institute does it this way:

A $200,000 electronic fire and burglar alarm system, the most modern and efficient that money could buy, was installed last year. Operating cost is about $25,000 a year; the Institute's trustees consider it well worth the money.

Well trained guards, including a fire inspector, on the Institute's 405-member staff also keep watch over the collection. Pocket-sized radios keep key staff members always in easy reach should they be needed. And the conservation department inspects all works daily.

No-smoking rules are rigidly enforced in the big basement shipping room, carpenter and paint shop. The shop has an automatic sprinkler system, as does the room where wooden and paperboard shipping crates are kept. Padding, excelsior and other packing materials are stored in a separate fireproof room. Partly because of such precautions, the Institute has never had a fire.

It did lose a valuable Renoir to a thief once, though, while the picture was on loan in Paris. Fortunately it was recovered quickly, as were the six paintings stolen more recently from the Toronto Art Gallery in what was probably the biggest art robbery of modern times. The works were insured for $640,000. Now, to insure safety, the Chicago Art Institute screws its smaller pictures to the walls so they can't be "lifted." The larger ones rest on securely anchored floor bases or are hung by well-fastened double hooks. Glass covers most of them, to protect them from grime and the chemical impurities in city air, and to keep vandals or too-curious sightseers from touching them.

In transit, pictures are guarded by armed police escorts or museum personnel. Another precaution is the splitting up of large shipments of paintings to spread out the risk of theft or accident.

Packing a picture for shipment is another exercise in skill and care. With its expert technicians, the Chicago Art Institute is unlikely to suffer as one museum did when a careless packer mistook a thick coat of varnish on one masterpiece for a pane of glass. He used strips of masking tape to protect the "glass." When the tape came off, so did the paint.

Any loan by the Institute requires first an examination of the painting to see that it is fit for travel. Some works, considered too fragile, are never loaned. *La Grande Jatte* was approved months in advance, then cleaned and strip-lined to insure sound physical condition. For packing,

Art Institute of Chicago

Sunday Afternoon on the Island of La Grande Jatte, by Georges Seurat

it was removed from its 700-pound frame, its edges bound with aluminum stripping and a masonite backing attached to prevent bending. Then it was sealed in waterproof paper and packed in a foam rubber-lined wooden crate.

It took a dozen men to load the precious cargo onto a truck, and armed guards stood by as it was transferred to a train. In the freight car workmen spent four hours securing the crate with two-by-fours and braces, then covered it with a tarpaulin, all under the supervision of Institute Conservator Louis Pomerantz. He rode the same train, never leaving the picture until it was unpacked at the New York museum.

Pictures just received or awaiting shipment to out-of-town exhibitions are kept, in the Chicago museum, in a special room on a platform of padded two-by-fours five inches off the floor —a precaution against flood. A hygrometer in this room keeps tabs on the humidity and is checked periodically by shipping-room supervisor Joseph Benkert. Should it fall below 40, a humidifier would be needed to protect pictures from warping, cracking or peeling.

Not all museums are as careful, and many private collectors, through ignorance or carelessness, also are letting their priceless art works deteriorate—one hazard insurance cannot cover. Few owners would keep their paintings rolled up under the bed, as the California couple in last year's much-publicized "$10 million find" had done for years. Still, some experts estimate that even in the nation's 500 museums, probably a third of the art treasures need emergency care. The figure would be considerably higher if privately-owned collections were included.

Prevention of such deterioration is a crying need in the art field today, conservation-minded art lovers say. Those who buy art as an investment also know this is true, for nothing "depreciates" a painting faster than deterioration—unless it be discovery that a high-priced "masterpiece" is actually a fake. Gainsborough's famous *Blue Boy,* for example, brought a price of $640,000 in the days when such prices were virtually unheard of. A few years later, an appraiser figured it would not bring $100,000, because of the deterioration of the artist's poor pigments and other materials.

Fading, cracking or peeling pictures can be restored, by experts. But in the long run it is loss prevention practices, such as have been pioneered through the years by mutual insurance, which save art owners money, and heartaches. As Conservator Pomerantz says: "To preserve is better than to restore." ⊙

These 148 companies, a century or more old, represent 16,955 years of uninterrupted service in mutual insurance.

100-YEAR HONOR ROLL OF

1752—The Philadelphia Contributionship for the Insurance of Houses from Loss by Fire, *Philadelphia, Pa.*

1784—Mutual Assurance Co. for Insuring Houses from Loss by Fire, *Philadelphia, Pa.*

Franklin's *Autobiography* appeared (1794)

1794—The Baltimore Equitable Society, *Baltimore, Md.*

Mutual Assurance Society of Virginia, *Richmond, Va.*

1800—The Providence Mutual Fire Insurance Co., *Providence, R. I.*

1809—Bucks County Contributionship, *Morrisville, Pa.*

1823—New Jersey Association for the Insurance of Houses and Other Buildings from Loss by Fire, *Crosswicks, N. J.*

Worcester Mutual Fire Insurance Co., *Worcester, Mass.*

1825—Norfolk & Dedham Mutual Fire Insurance Co., *Dedham, Mass.*

1826—Cincinnati Equitable Insurance Co., *Cincinnati, Ohio.*

Hingham Mutual Fire Insurance Co., *Hingham, Mass.*

Middlesex Mutual Fire Insurance Co., *Concord, Mass.*

1827—Mutual Fire Assurance Co. of Springfield, *Springfield, Mass.*

Mutual Fire Insurance Co., *Saco, Me.*

First recorded strike of factory workers (1828)

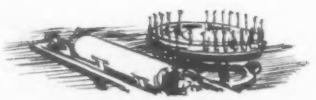
1828—Groveland Mutual Insurance Co., *Groveland, Mass.*

Lynn Mutual Fire Insurance Co., *Concord, Mass.*

Merrimack Mutual Fire Insurance Co., *Andover, Mass.*

Vermont Mutual Fire Insurance Co., *Montpelier, Vt.*

West Newbury Mutual Fire Insurance Co., *Dedham, Mass.*



Patent issued for first typewriter (1829)

1829—Newburyport Mutual Fire Insurance Co., *Newburyport, Mass.*

1830—Northampton Mutual Insurance Co., *Easton, Pa.*

1831—Mutual Insurance Co. of Hartford, *Hartford, Conn.*

1832—Farmers Fire Ins. Co. of Upper & Lower Saucon Township, *Bethlehem, Pa.*

Lowell Mutual Fire Insurance Co., *Lowell, Mass.*

First steel plow, John Deere (1833)

1833—Barnstable County Mutual Fire Insurance Co., *Yarmouthport, Mass.*

Cambridge Mutual Fire Insurance Co., *Andover, Mass.*

The Litchfield Mutual Fire Insurance Co., *Litchfield, Conn.*

1835—Berkshire Mutual Fire Insurance Co., *Pittsfield, Mass.*

Manufacturers Mutual Fire Insurance Co., *Providence, R. I.*

1836—Middlesex Mutual Assurance Co., *Middletown, Conn.*

Suffolk County Mutual Insurance Co., *Southold, N. Y.*

1837—American Manufacturers Mutual Insurance Co., *New York, N. Y.*

Washington County Insurance Co., *Washington, Pa.*

1838—Richland-Knox Mutual Insurance Co., *Mansfield, Ohio*

Shrewsbury Mutual Fire Insurance Co., *Trenton, N. J.*

$4 million fire, New York City (1839)

1839—Erie County Mutual Insurance Co., *Erie, Pa.*

Farmers' Mutual Fire Insurance Co. of the State of Delaware, *Wilmington, Del.*

1840—Chester County Mutual Insurance Co., *Coatesville, Pa.*

New London County Mutual Insurance Co., *Norwich, Conn.*

Sussex County Mutual Insurance Co., *Newton, N. J.*

1841—Lancaster County Mutual Insurance Co., *Lancaster, Pa.*

1842—Atlantic Mutual Insurance Co., *New York, N. Y.*

The Harford Mutual Insurance Co., *Bel Air, Md.*

1843—Allen & East Pennsboro Mutual Fire Insurance Co., *Mechanicsburg, Pa.*

Frankford Mutual Insurance Co., *Philadelphia, Pa.*

Goschenhoppen Mutual Insurance Co., *Pennsburg, Pa.*

Holyoke Mutual Fire Insurance Co. in Salem, *Salem, Mass.*

The Independent Mutual Fire Insurance Co., *Philadelphia, Pa.*

Line Lexington Mutual Fire Insurance Co., *Lansdale, Pa.*

Mutual Fire Insurance Co. of Pottstown, *Pottstown, Pa.*

Sinking Spring Mutual Insurance Co., *Reading, Pa.*

White Hall Mutual Insurance Co., *Doylestown, Pa.*

Mesabi iron range discovered accidentally (1844)

1844—Attleboro Mutual Fire Insurance Co., *Attleboro, Mass.*

The Cumberland Mutual Fire Insurance Co., *Bridgeton, N. J.*

Eliot & Kittery Mutual Fire Insurance Co., *Kittery, Me.*

Farmers Mutual Insurance Co. in the County of Lancaster, *Elizabethtown, Pa.*

Mercer Mutual Insurance Co., *Pennington, N. J.*

Mutual Insurance Co. of Frederick County, *Frederick, Md.*

Northern Mutual Insurance Co. of Lancaster County, *Ephrata, Pa.*

1845—The Mutual Fire Insurance Co. of Kent County, Maryland, *Chestertown, Md.*

Mutual Insurance Co. of Berks County, *Reading, Pa.*

Palatine Co-operative Insurance Co., *Palatine Bridge, N. Y.*

1846—Guarantee Mutual Insurance Co., *Worcester, Mass.*

New Brunswick Mutual Fire Insurance Co., *New Brunswick, N. J.*

Planters Mutual Insurance Co., Washington County, *Hagerstown, Md.*

Windsor Mutual Insurance Co., *Hamburg, Pa.*

First health policy of record (1847)

1847—Fitchburg Mutual Fire Insurance Co., *Fitchburg, Mass.*

Kent County Mutual Insurance Co., *Dover, Del.*

Mutual Fire Insurance Co. of Cecil County, *Elkton, Md.*

1851—Adams County Mutual Fire Insurance Co., *Gettysburg, Pa.*

The Carolina Mutual Insurance Co., *Charleston, S. C.*

Farmers' Mutual Fire Insurance Co. of Salem County, *Salem, N. J.*

Protection Mutual Fire Insurance Co., *Littletown, Pa.*

Quincy Mutual Fire Insurance Co., *Quincy, Mass.*

$5 million fire, Sacramento, California (1852)

1852—Addison Farmers' Mutual Insurance Co., *Elmhurst, Ill.*

Farmers Mutual Fire Insurance Co. of Mill Creek Hundred, *Marshallton, Del.*

North Yarmouth Mutual Fire Insurance Co., *Yarmouth, Me.*

Strafford Mutual Fire Insurance Co., *Rochester, N. H.*

1853—Farmers Fire Insurance Co., *York, Pa.*

Fulton & Montgomery Counties Farmers Mutual Fire Ins. Assn., *Broadalbin, N. Y.*

1856—Abington Mutual Fire Insurance Co., *Abington, Mass.*

The Codorus & Manheim Mutual Protection Insurance Co., *York, Pa.*

Dover Mutual Fire Insurance Co., *York, Pa.*

The Farmers' Mutual Fire Assurance Assn. of New Jersey, *Flemington, N. J.*

Farmers' Mutual Fire Ins. Assn. of the Town of Catskill, *Athens, N. Y.*

Farmers Mutual Insurance Assn. of Scott County, *Davenport, Iowa.*

Herman Mutual Insurance Co., *Iron Ridge, Wis.*

Lebanon Mutual Insurance Co., *Lebanon, Pa.*

Mutual Insurance Assn. of Nassau, Schodack & Chatham, *North Chatham, N. Y.*

Nescopeck Mutual Fire Insurance Co., *Nescopeck, Pa.*

Pioneer Co-operative Fire Insurance Co., *Greenville, N. Y.*

Schaghticoke Mutual Fire Insurance Co., *Schaghticoke, N. Y.*

Patent for pig-iron conversion to steel (1857)

1857—Allied Western Mutual Insurance Co., *Kansas City, Mo.*

Berks and Lehigh Mutual Insurance Co., *Kutztown, Pa.*

Cambridge Co-operative Fire Insurance Co., *Buskirk, N. Y.*

Claverack Town Fire Insurance Co., *Hudson, N. Y.*

Farmers Mutual Fire Insurance Co. of Centre County, *Spring Mills, Pa.*

Great Valley Mutual Live Stock Insurance Co., *Paoli, Pa.*

Harborcreek Mutual Fire Insurance Co. of Erie, Pa., *Erie, Pa.*

Protection Mutual Insurance Co. of Pennsylvania, *Upper Darby, Pa.*

Union Farmers Mutual Fire Insurance Co., *East Union, Me.*

Weare Mutual Fire Insurance Co., *North Weare, N. H.*

1858—Easton Mutual Fire Insurance Co., *Greenwich, N. Y.*

Galway Fire Insurance Co., *Galway, N. Y.*

The Hamilton Mutual Insurance Co. of Cincinnati, Ohio, *Cincinnati, Ohio.*

Jackson Fire Insurance Co., *Cambridge, N. Y.*

$3 million fire, St. Louis, Missouri (1859)

1859—Allen Mutual Insurance Co., *Allentown, Pa.*

Annville Mutual Insurance Co., *Annville, Pa.*

Charlton Fire Insurance Co., *Ballston Spa N. Y.*

Delhi Insurance Co., *Delhi, N. Y.*

The German Farmers Mutual Fire Insurance Co. of Washtenaw County, *Chelsea, Mich.*

Saratoga County Mutual Fire Insurance Co., *Mechanicville, N. Y.*

Sonnenberg Mutual Insurance Assn., *Dalton, Ohio.*

Wilton Mutual Fire Insurance Co., *Dryden, Me.*

Windham Mutual Fire Insurance Co., *South Windham, Me.* ⊙

L OF MUTUAL INSURANCE

1848—The Cantwell Mutual Insurance Co., *Odessa, Del.*

Mutual Fire Insurance Co. of Montgomery County, *Sandy Spring, Md.*

Mutual Insurance Co. of Lehigh County, *Allentown, Pa.*

Ohio Farmers Insurance Co., *LeRoy, Ohio*

Pawtucket Mutual Insurance Co., *Pawtucket, R. I.*

Southern Mutual Insurance Co., *Athens, Ga.*

Traders & Mechanics Insurance Co., *Lowell, Mass.*

$3 million fire, St. Louis, Missouri (1849)

1849—American Mutual Insurance Assn. of Scott County, Iowa, *Davenport, Iowa.*

Cumberland Mutual Fire Insurance Co., *Cumberland Center, Me.*

Mutual Fire Insurance Co. of Loudoun County, *Waterford, Va.*

Salem County Mutual Fire Insurance Co., *Salem, N. J.*

1850—Boston Manufacturers Mutual Insurance Co., *Waltham, Mass.*

Bow Mutual Fire Insurance Co., *Concord, N. H.*

Danbury Mutual Fire Insurance Co., *Danbury, Conn.*

Farmer's Mutual Fire Insurance Co. of Schuylkill County, *Orwigsburg, Pa.*

The Franklin County Mutual Insurance Co., *Chambersburg, Pa.*

New Castle Mutual Insurance Co., *Wilmington, Del.*

First group life policy (1854)

1854—Bethlehem Mutual Insurance Assn., *Glenmont, N. Y.*

Firemen's Mutual Insurance Co., *Providence, R. I.*

Germantown Mutual Insurance Co., *Germantown, Wis.*

Guilderland Mutual Insurance Assn., *Greenville, N. Y.*

Kishacoquillas Mutual Fire Insurance Co., *Reedsville, Pa.*

Lykens Valley Mutual Insurance Co., *Elizabethville, Pa.*

New Scotland Mutual Insurance Co., *Clarksville, N. Y.*

Paradise Mutual Insurance Co., *Hanover, Pa.*

1855—Dorchester Mutual Fire Insurance Co., *Boston, Mass.*

Farmers American Mutual Fire Insurance Co. of Bucks County, *Dublin, Pa.*

Farmers Fire Ins. Assn. of the Towns of Greenville, Durham, Westerlo & Rensselaerville, *Oak Hill, N. Y.*

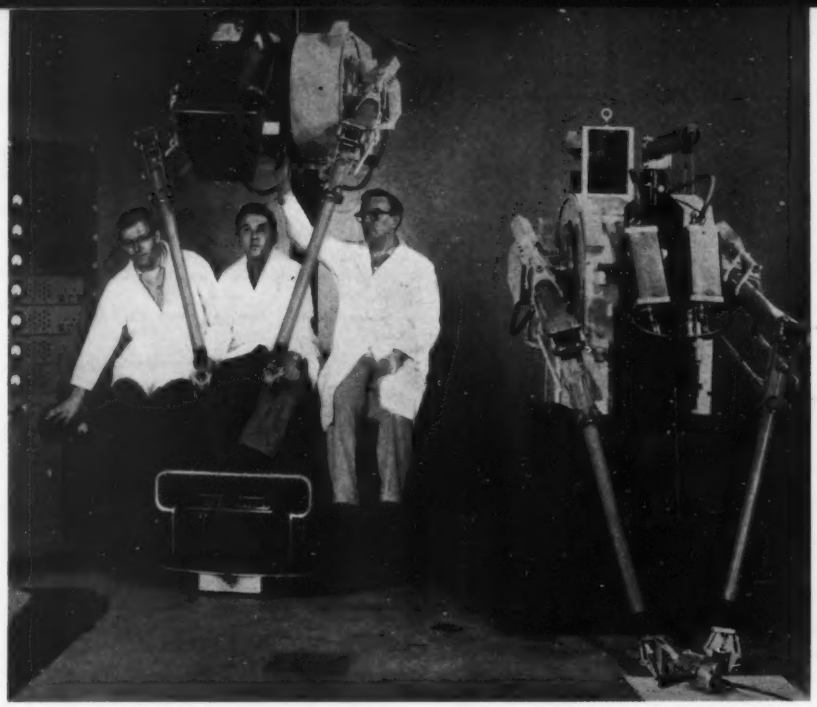
Farmers Mutual Fire & Aid Assn. of Kendall & Kerr Counties, *Comfort, Tex.*

Harpswell Mutual Fire Insurance Co., *Harpswell Center, Me.*

Louisville Mutual Fire Insurance Assn., *Louisville, Ky.*

Mount Joy Mutual Insurance Co., *Mount Joy, Pa.*

New Baltimore Mutual Insurance Assn., *West Coxsackie, N. Y.*



First demonstrated at the '58 Geneva Conference on peaceful uses of atomic energy, Argonne's "slave robot" is designed for work with highly radioactive materials separated from technicians by heavy shielding. The electronic robot is operated by one or more lab men from remote control unit, can repair itself if need be. Here, a demonstration with a power drill and non-radioactive materials.

INSIDE ARGONNE NATIONAL LABORATORY

America's senior nuclear center celebrates notable "firsts" this month.

TWENTY-FIVE MILES southwest of Chicago, America is spending $40 million a year in history-making exploration on a site long hallowed by the 17th-century explorations of Joliet, Father Marquette and LaSalle.

The installation is Argonne National Laboratory, spread over 3,700 prairie-state acres almost within sight of what is now the city of Joliet and the neighboring LaSalle County. Argonne is to the productive use of atomic energy what Los Alamos has been to the development of nuclear weapons.

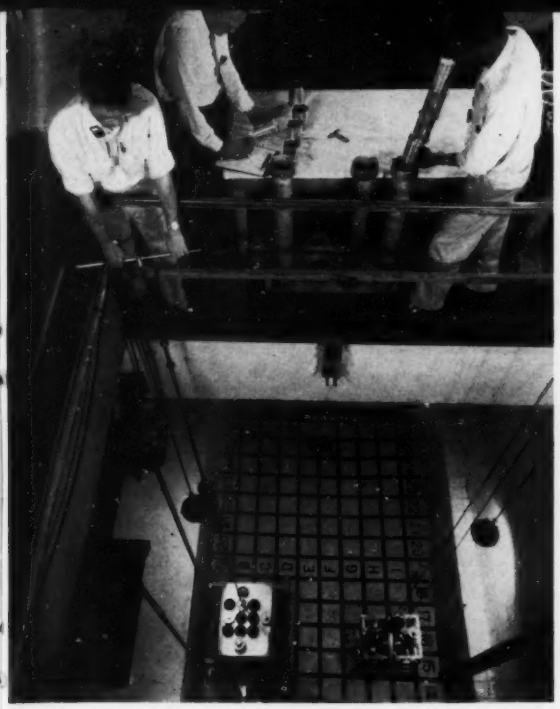
Argonne's atomic power production discoveries already have led to the birth of a far-flung national industry. Still in its infancy, that industry has required the creation of immense insurance coverages literally undreamed of a few years ago.

Here, too, safety pioneering has helped our atomic industry establish an outstanding accident-free record in its early years. Argonne has set the pace. In the words of a key executive in nuclear insurance, the lab "has one of the best safety records in the world."

Operated by the University of Chicago for the Atomic Energy Commission, Argonne's facilities represent a $100-million public investment. In the opinion of Director Norman H. Hilberry, physicist and 18-year veteran of America's atomic energy program, the laboratory's trump card is its scope. In its 100 buildings, Argonne's 3,400 employees are involved in both basic and engineering research to a combined extent unequaled elsewhere in the U. S.

February is a notable month at this science giant outside Lemont, Illinois. It was in February, 1943, that University of Chicago personnel temporarily shut down the world's first atomic reactor and began moving off campus to set up a suburban atomic facility. The project developed into today's Argonne, officially founded as a national laboratory on July 1, 1946.

This month also recalls two 1957 breakthroughs: The first U. S. reactor designed prin-



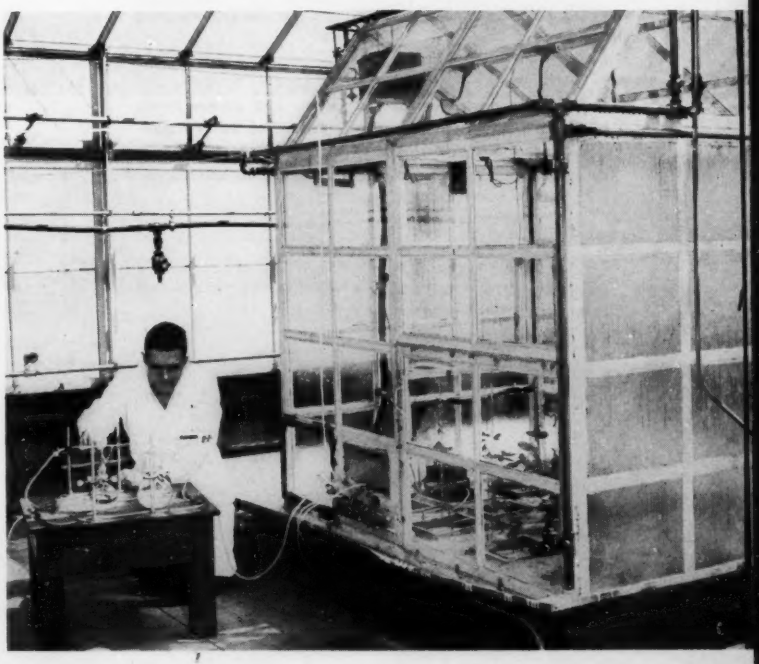
Argonne's gamma irradiation facility is used for testing the effects of various amounts of radiation on foods, chemicals. One goal is food sterilized for long term storage without refrigeration.

Argonne National Laboratory Photos

The first international school devoted to the beneficial aspects of atomic energy was started at Argonne in March, 1955, has trained more than 400 scientists and engineers since. A student checks fuel plates of a training reactor, plans for which are available to other schools.

In low level gamma irradiation room, personnel of biological and medical research division examine mice used in studying the toxicity of gamma rays on living animals. Cobalt-60 is radiation source.

In biology division's "atomic greenhouse," special chambers are used for raising plants in radioactive atmospheres. Exacting conditions of light, heat, humidity are required. A basic research leader, Argonne achieved first successful growth of living matter in pure heavy water.



Near Arco, Idaho, July 22, 1954: Borax I, operated by Argonne at the National Reactor Testing Station, was deliberately destroyed to test safety and power possibilities of boiling water reactors. Picture of water expulsion during planned runaway was taken by a remote controlled camera. A new reactor occupies site today.

Under construction in Idaho, Experimental Breeder Reactor II will be used by Argonne personnel in studies of combined fuel-and-power-producing nuclear plants. Steel strike delayed the plans for late 1960 start-up.

cipally to produce power was dedicated, and the first low-cost reactor for training in nuclear engineering went into action.

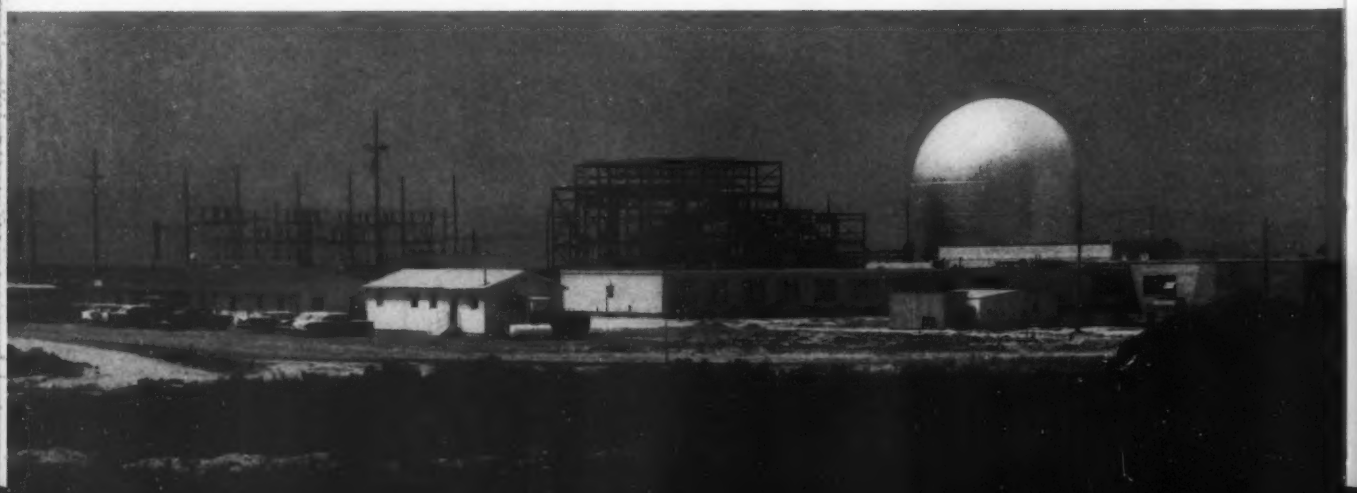
Other conclusive evidence of Argonne's atomic leadership is manifold. For instance:

- ¶ Development of the shell model of the atomic nucleus.
- ¶ First production of usable quantities of electricity from nuclear energy.
- ¶ Development of the first neutron chopper.
- ¶ First submarine reactor design.
- ¶ First success at growing living matter in pure heavy water.
- ¶ First "breeding" of atomic fuels.
- ¶ Discovery of chemical agents that reduce radiation damage to living organisms.
- ¶ First on-the-job reactor training programs.

Argonne's newest project undoubtedly will add to the list. It's a near $17-million program to build three new reactors. The goal: "A big step-up in the flow of information on basic physics, needed to advance our development of fast breeder reactors," says Reactor Engineering Director Bernard I. Spinrad.

Such talk about Argonne's future recalls the hush-hush atomic past. About the time of the Korean fighting, a newsman decided to test Argonne security. He scaled a fence successfully, by a sheer miracle escaped getting shot and was promptly shown the gate by alert, if unsympathetic, guards.

This year, some 20,000 taxpayers and several thousand foreign visitors to Argonne will find only one small area devoted to special AEC work rated SECRET. Ninety-five per cent of the exciting things happening in the laboratory's 16 scientific divisions are non-classified efforts to make the secrets of matter work for, not against, all men. ⊙

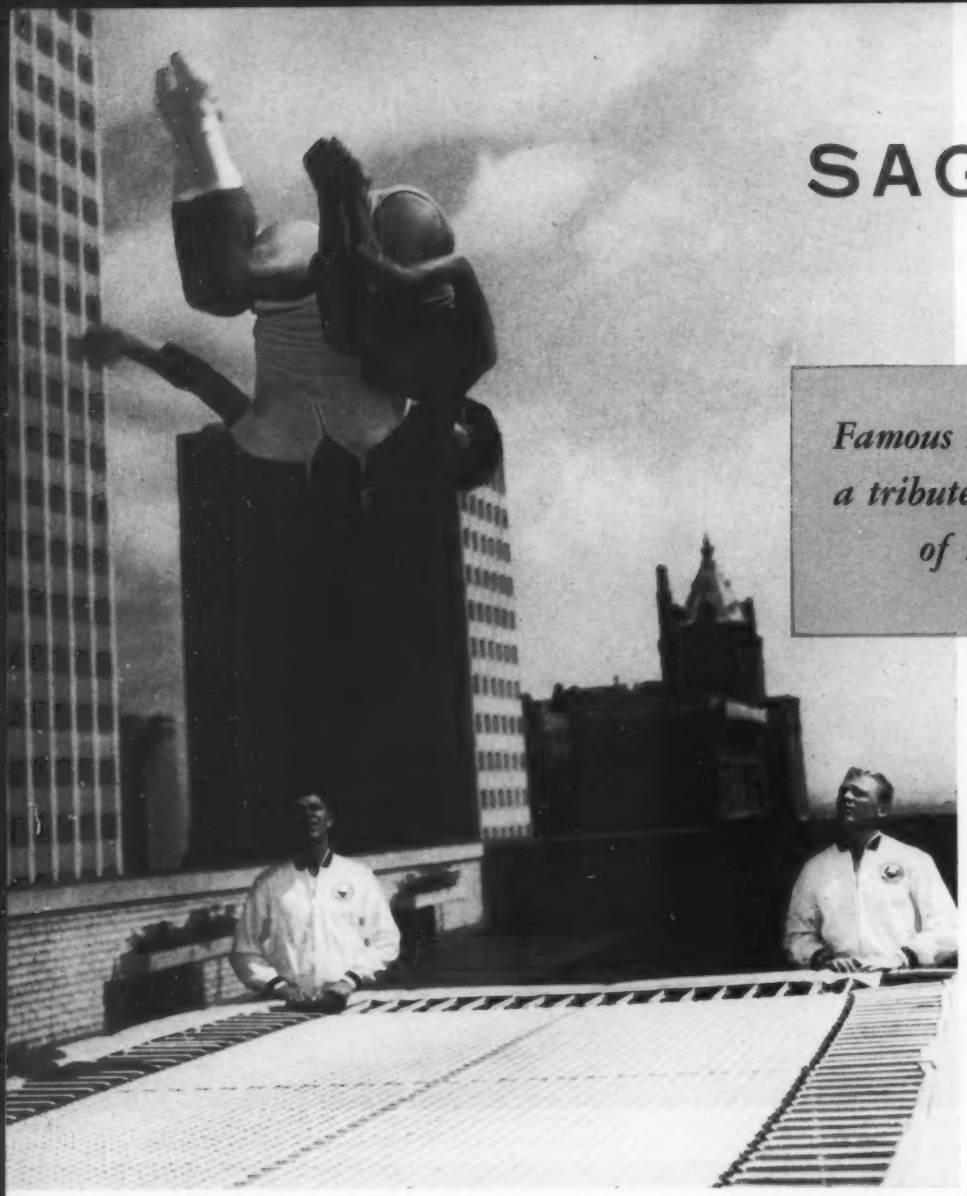


Argonne's reactor area: In the far background, research reactor CO-5; in the center foreground, the experimental boiling water reactor. Between the two, from left to right, are waste disposal and reclamation facilities, the gamma irradiation processing unit, the "caves" or hot laboratory wherein highly radioactive materials are studied, and test units for reactor engineering.

Newest project is a $29 million atom smasher begun last year and intended to enable scientists to explore the fundamentals of matter and energy. Zero Gradient Synchrotron (ZGS) will fire protons at nuclear targets, be used by university and lab personnel.

SAGA OF A C

Famous Navy Starflights are a tribute to the rehabilitation of their flier-coach.



Two of Coach Lowder's star trampoliners, Sally Wilcox and Bill Zipperer, do their double somersault routine against the New York skyline in one of the team's many public shows. In training for the rigors and finesse of Navy flying, all flight students at the U. S. Naval School of Pre-Flight, Pensacola, Florida, are given basic instruction in trampolin techniques by Lowder.

Official U.S. Navy Photos

Navy's Starflight team, proof of successful rehabilitation, which was developed by Coach Joe Lowder, fifth from left, after his stirring comeback from near death. Members are, left to right, Bob Edey, Jim Cady, Bill Zipperer, Sally Wilcox, Coach Lowder, Robert Charles and Carl Ott, Naval Air Training Command group, Pensacola, Florida.

COMEBACK

IT'S ONLY a short strip of tightly stretched canvas. But it forms a stage on which the Navy and a rehabilitated flier—Joe Lowder—continue to win national fame. For Coach Lowder and his team of Starflights are the country's acclaimed wonders on the tricky trampolin. Yet Joe was once an almost hopeless case for survival, much less for rehabilitation and gainful employment in the service of his country.

His scars are still on him. But there is no trace of a hint in his trampolin dexterity nor in his physique that he once had first and second degree burns over half his body, a skull fracture, loss of sight in his right eye, two bullet wounds, a fractured ankle, rice worms, maggots and amoebic dysentery.

He was, in fact, a 90-pound skeleton of what had been a 180-pound crewman on a Navy patrol bomber flying a mission from Mindoro Island in the Philippines that summer day in 1945. Lowder's plane was hit by enemy groundfire and subsequently crashed and exploded. When Joe recovered consciousness, he discovered he was partially blinded, had wounds in the leg and hip and was painfully burned. Though he was thrown clear of the wreckage, the worst was still ahead. Within minutes of the crash he was taken prisoner by Japanese marines.

During approximately 60 days as a prisoner of war, Joe had no medical care. Not until his release and entrance into a French hospital in Saigon was the full extent of his injuries determined. None too soon, he was in the first planeload of medical evacuees to depart Saigon for the U. S.

Not one but several hospitals helped in the rebuilding of Joe. His right eye was removed. He was fitted with a plastic replacement. Considerable skin grafting had to be done. Then, after his release from the Naval Hospital in Bethesda, Maryland, Joe started a rehabilitation program at the Charleston, South Carolina, YMCA. He also began doing manual labor in the gas fields near Charleston.

But trampolining was still a mystery to him when he entered Springfield College in Massachusetts, from which he was graduated in 1950 with a physical education major. While there Lowder was a member of the gymnastics exhibition team, with the trampolin as a specialty.

His fame on the springy canvas frame has been growing ever since he organized and starting coaching the trampolin exhibition team, Starflights. That was shortly after he went to the Naval Air Basic Training Command, Pensacola, Florida, in the summer of 1955 as an instructor in the physical fitness and survival section of the U. S. Naval School of Pre-Flight.

For development of confidence, agility, body co-ordination, timing and judgment, basic instruction in trampolining is given to all flight students by Coach Lowder. The Starflights, making a hobby of it, have gone into the advanced stages after the preliminary training.

Their superb teamwork and co-ordination, tumbles, twists, turns and flips, performed with split-second timing and well-tuned muscles, have made their exhibition a top hit throughout the country. Starlet of the team is Sally Wilcox, a radioman third class, who was a total stranger to the trampolin before her training under Coach Lowder. Joe himself keeps in trim by adding a hilarious clown act to the team's repertoire.

The Navy's fame long has included the Blue Angels, Aviation Cadet Choir, Band and Drill team. Now it also claims as the nation's pride the Starflights and Coach Joe Lowder, extraordinarily rehabilitated. ⊙

HAIL TO THE COACH!

JOE LOWDER, mutual insurance salutes you and the U. S. Navy for a thrilling demonstration of American spirit, determination and capability.

You personify what is being accomplished in increasing measure under the American way of voluntary action, promotion and education. In fact, never before has the handicapped individual had the chance of obtaining a position to utilize his abilities and skills to the utmost as he has today. Placements of the handicapped have been running at record highs.

Successful rehabilitation, so well achieved by you, exemplifies the spirit and policy of mutual insurance. For mutual casualty insurance companies, over the past 20 years or more, have advocated and encouraged the re-employment of such men and women and have helped many policyholding companies and agencies develop a sound program for placement.

SAFE-PROOFING AUTO PASSENGERS

Here's how to save lives and reduce injuries through better 'packaging.'

WHEN AMERICA'S FIRST Astronaut hurtles into space in his sawed-off cone of a capsule, he'll be "packaged" as safely as the best engineering brains in the country can make him.

Hunched up and strapped to a form-fitting foam rubber couch, he'll be only tolerably comfortable. But he'll have the confidence that the cramped little capsule should keep him safe despite such hazards as 18,000-mph speed, 11,000-degree heat, collisions with meteorites and, finally, being dumped into the ocean.

Earthbound travelers may be more comfortable, but they cannot be so confident of their safety. Automobiles are old-timers compared to the pioneer space capsule, yet years of engineering have not made them safe. The annual U. S. highway toll of 38,000 killed and millions injured attests to that. Yet, according to one authority, Dr. C. Hunter Shelden of the American Medical Association, 75 per cent of auto deaths, and countless injuries, could be prevented by elimination of the mechanically hazardous features of interior car construction.

There is research toward this end. But critics point out that more research money and effort are spent on packaging cigarets than on packaging man safely in his car. Packaging, of course, is not the whole answer to highway safety; preventing accidents in the first place is the real key. But as long as accidents do occur, the best hope of preventing death and minimizing injuries lies in safer vehicles.

There has been some progress. Recessed steering posts, padded dashboards, safety glass, better lights and brakes, defrosters and door latches have helped make driving safer. But so much more is needed.

Seat belts, of good quality, properly installed and always used, would save 5,500 lives or more each year and cut injuries as much as 60 per cent, researchers say. Such organizations as

Robert J. Keller, Boston

"Safest car in the world" is said to be this experimental model developed by Cornell Aeronautical Laboratory and Liberty Mutual Insurance Company. Safety features include driver's seat in center (above); lever controls (no steering wheel); bucket seats, one facing rear; crash padding; seat belts on all seats; recessed knobs; headrests to prevent whiplash injury to necks; side bumpers; rollover bars.

National Safety Council

"Fasten your safety belt," instructor tells Marion Schmidt at Clintonville, Wisconsin, driving clinic. If all auto riders faithfully used properly installed seat belts, highway deaths could be cut 5,500 a year or more, and injuries reduced by up to 60 per cent, researchers say. But only 3 to 5 per cent of U.S. autos have belts despite low cost, proved value.

California Highway Patrol

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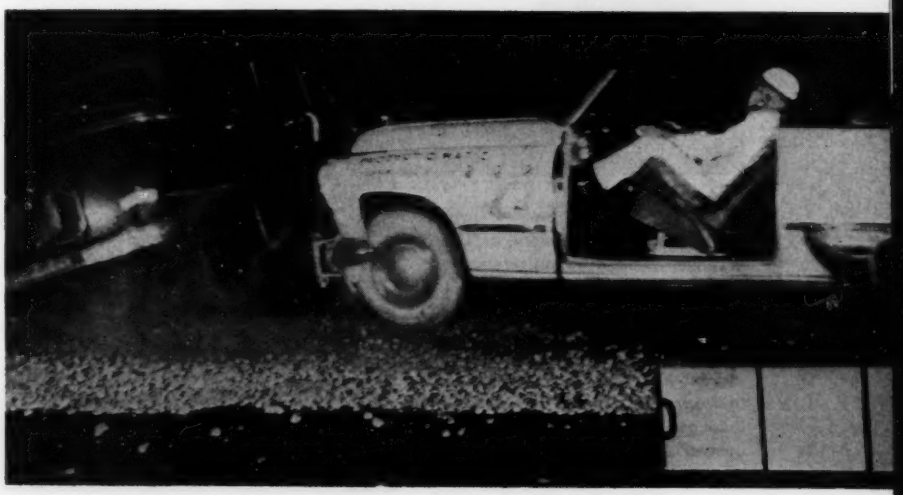
Struck broadside by another vehicle, this California Highway Patrol car was virtually demolished. But officer driving it wore seat belt and suffered only minor injuries. Without it, he'd have been thrown about and more seriously hurt. Many states, federal agencies and businesses now require all autos used by their personnel to be safety belt-equipped.



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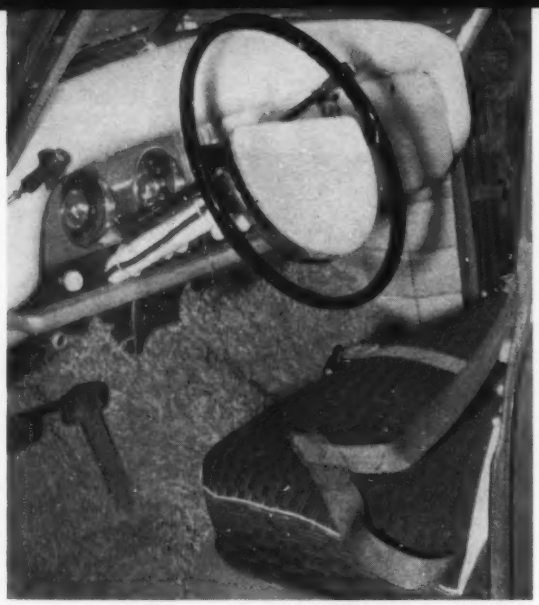
Another way to keep driver from being thrown into steering wheel or windshield in a crash is demonstrated at National Safety Congress. Impact on bumper "trigger bar" activates hydraulic system, tilts front seat backward. Seat also slides forward on base to further cushion impact. System retails for $295, can be installed as accessory on some cars. Impact pictured here was at 40 mph.

Protect-O-Matic Corporation

the National Safety Council, AMA and U. S. Public Health Service consider seat belts the greatest single potential lifesaver of any auto safety devices available today. Yet manufacturers do not equip cars with them; they say the public is unwilling to pay the slight additional cost. The public does seem ridiculously foolish in not using belts, which cost as little as $10 or $15 apiece installed. Fewer than 2 million of our 70 million vehicles have them, and sad accident experience shows that even in those cars many people "forget" or refuse to use them.

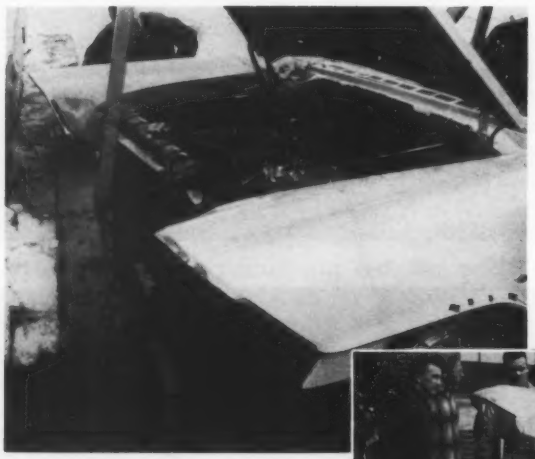
Shoulder straps or harnesses would increase protection even more. So would rear-facing seats, as plane crash studies have shown. Better safety door latches could save another 5,000 lives a year, says one expert. Other devices being tested, offered or suggested (some of them shown in the accompanying photographs) also would reduce deaths and injuries: More crash padding, higher seat backs, rollover bars, shock-absorbing bumpers, recessed knobs and handles, control lever instead of a steering wheel, speed governors or warning devices, blowout-proof solid tires.



Colorado Safety Car Committee

How to safe-proof any car inexpensively is taught by Colorado Safety Car Committee. It includes seat belts; breast strap if desired; rug-padded floor; padded dash, roof, wheel; headrests.

The effectiveness of these devices may vary. And many authorities caution against a piecemeal approach; they say a total packaging revolution by manufacturers is the only effective method. Many back a proposed federal law, the Roberts bill, which would give the government power to establish and enforce safety standards for all cars. Others want to keep it voluntary. But no one could disagree that something must be done if we are to stop the senseless slaughter and maiming of human beings on our highways. ⊙



Hydraulic bumper teamed with safety belts is main feature of University of Minnesota's test safety car. Developed by Professor James J. Ryan (right), bumper absorbs much of impact in crash. Seat belts protect occupants. Here technicians prepare car for test. After 30 mph crash into barricade, auto is only slightly damaged (above). Without hydraulic bumper, such a crash could be fatal.

University of Minnesota

FROM OUR ANNALS

GEORGE WASHINGTON

1732-1799

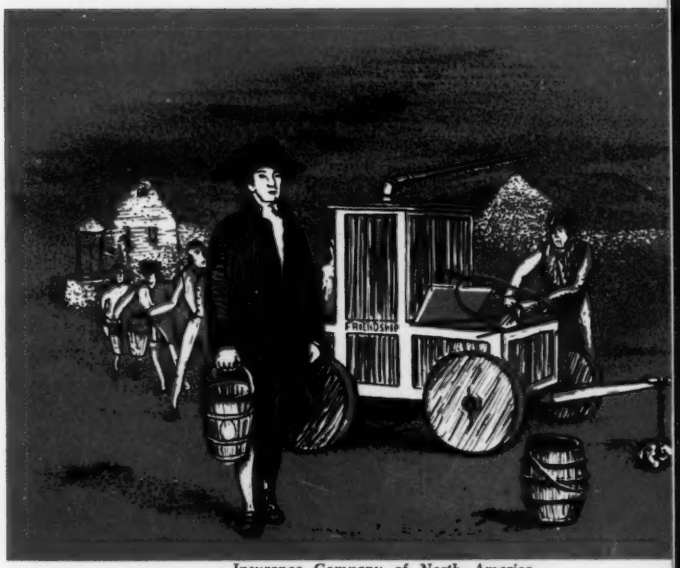
IN EPOCHAL MEASURE, the spirit of George Washington abounds during this 228th anniversary of his natal month. For his namesake city, which he modestly preferred to call the Federal City, is to become in broadened monumental scale the cultural and civic center envisioned by Washington and the other Founding Fathers. The new National Cultural Center, portrayed on the *Journal's* back cover, this month reaches the fund-raising stage with a meeting of national leaders in the nation's capital.

Mirrored in this panoramic view from the banks of the Potomac is the city President Washington and his planner, Major Pierre Charles L'Enfant, had in mind when the distinguished French-born engineer arrived in Washington in early March, 1791, on his commission to create a symbolic city—beautiful, stately, spacious, inspiring, dignified.

Indeed, even in this 20th century scene, "Washington is in the clear upper sky," as Daniel Webster said in his 1826 eulogy. For the Washington Monument rises to its 555-foot height in the background.

This monument is not the first erected to Washington. But it is perhaps the best known and most enduring, even though plans for it were so cuffed about that it was not dedicated until some 37 years after the laying of the cornerstone on July 4, 1848, and 49 years after the Robert Mills plans for it had been accepted.

Perhaps the first memorial to Washington, and admittedly the greatest piece of sculpture in America at that time, was the Antonio Canova *Statue of Washington* installed in the State House at Raleigh, North Carolina, on December 24, 1821. Sentiment for new Washington statues and monuments swept the country after the Canova statue was destroyed by fire in 1831.

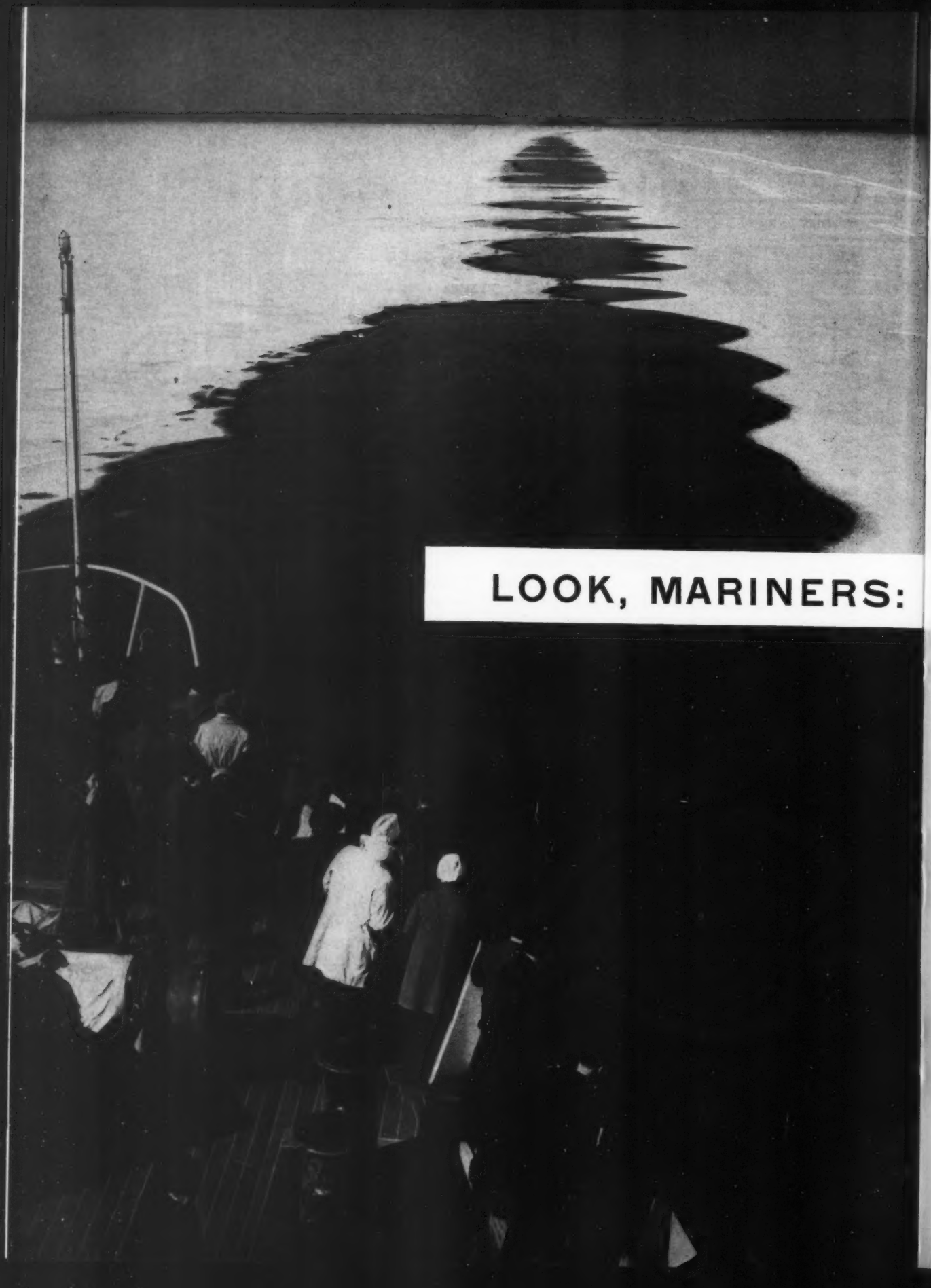


Insurance Company of North America

Washington's ties to mutual insurance are memorialized in this historical view of him with the engine he purchased for the Friendship Fire Company, Alexandria, Virginia, about 1775.

Today Washington is nowhere more well remembered and honored than he is in mutual insurance circles. For, as depicted on this page, he was an active member of the early fire-fighting brigades whose history is linked with that of the first mutual fire insurance companies. And the first fire insurance on his beloved Mount Vernon was provided by a mutual company. Mutual insurance and George Washington will be perpetually linked through his friendship with Benjamin Franklin, the progenitor of successful insurance in the U. S. and the founder of mutual insurance so well known today.

Befitting for these days of 1960, too, are Washington's *Farewell Address* words: "Observe good faith and justice towards all nations; cultivate peace and harmony with all. Religion and morality enjoin this conduct; and can it be that good policy does not equally enjoin it? It will be worthy of a free, enlightened, and, at no distant period, a great nation, to give to mankind the magnanimous and too novel example of a people always guided by an exalted justice and benevolence. . . ." ⊙


LOOK, MARINERS:

NO ICE

Swedish-perfected method keeps shipping lanes open even in severest weather.

SIX INCHES of ice that formed near the Lake Superior pier at Ashland, Wisconsin, in mid-November signalized a seasonal problem that has plagued shippers, mariners, engineers and the insurance industry ever since the Greeks were insuring ships and cargoes 300 years B. C. Now the Swedes have come up with ice-free harbors and channels as a demonstration of what can be done about the problem.

Similar efforts to break the ice barrier are being made by the U. S., Canada and others. Foreseeable is a day when Ashland, Wisconsin, and other harbors no longer will make news with their pier ice. Shipping on the Great Lakes, St. Lawrence Seaway and other waterways no longer will be as restricted and perilous as it is now. As it was, though, the Ashland crust in mid-November made history by bringing out the U. S. Coast Guard's first icebreaker of the 1959 season, the Woodrush, to help move hampered ore carriers in the shipping rush following the steel strike.

Sweden's now successful and economical method of coping with the problem is a "bubble" system. Plastic tubing "pinpricked" at varying distances is strung in the bottom of the channel so that compressed air pumped into the tubing whirls the warmer water on the bottom toward the surface, melting the ice and preventing further freezing.

Experimentally, the Swedish method first was tried in 1956 at Västeras, on Lake Mälaren. It was hoped eventually to link that center of manufacture with Södertälje, on the Baltic Sea. When the 1,000 feet of plastic tubing was laid down, the ice was about two feet thick on water about 50 feet deep. Compressor capacity was 100 gallons per minute, but half that capacity is now believed sufficient under similar conditions.

Ice holes opened after about the first 24 hours, and after another 24 hours holes 30 feet wide had formed, leaving a practically ice-free lane 30 to 40 feet wide. After two weeks the lane had widened to approximately 60 to 65 feet.

Since those first trials, de-icing has been pushed by Sweden toward the goal of a 60-mile ice-free channel from Västeras to the Baltic Sea.

Origin of the method dates back to World War II when Swedish fortification engineers undermined frozen lakes and rivers in the north, making them unsuitable as major military overland transportation routes. After the war the patents were taken over for development by Atlas Copco Company, with Svenska Metallverken perfecting the plastic tubes.

Toughest of the tests to which the U. S. has put the bubble system is probably the Navy's installation at Thule, Greenland, less than 800 miles from the North Pole. In 1959 the method kept the port open an additional four weeks until mid-October. Probably the most recent development on the U. S. scene is a bill introduced in Congress on June 24, 1959, "to provide for an investigation and study of means of making the Great Lakes and the St. Lawrence Seaway available for navigation during the entire year." The bill is now in the Senate Public Works Committee.

Normally the open season for navigation on the Seaway to the Lakes ends as early as October 31 and does not reopen until about the middle of April, according to Carroll W. Dawson, secretary, American Institute of Marine Underwriters. Insurance rates for the winter season are increased after the first week in December by ice, storms and other hazards.

Even on inland waterways, navigating the increasing amount of traffic through ice-choked or frozen channels has brought on more and more accidents damaging property and equipment and endangering towboat personnel, according to Captain L. J. Sullivan, fleet captain, Mississippi Valley Barge Line Company.

On the Illinois waterway alone, he reported four barges sank during the 1958-59 winter as a direct result of navigation during ice conditions. In another 1959 case, moving ice coupled with rising water in the Pittsburgh area of the Ohio River resulted in the breakaway and subsequent sinking of five barges at Montgomery Dam with total losses to cargoes, equipment and shore installations estimated to be between $25 million and $30 million.

Floating ice, in fact, is incriminated in one of the greatest maritime tragedies of all times, the S. S. Titanic sinking in April, 1912, a story now renowned. ⊙

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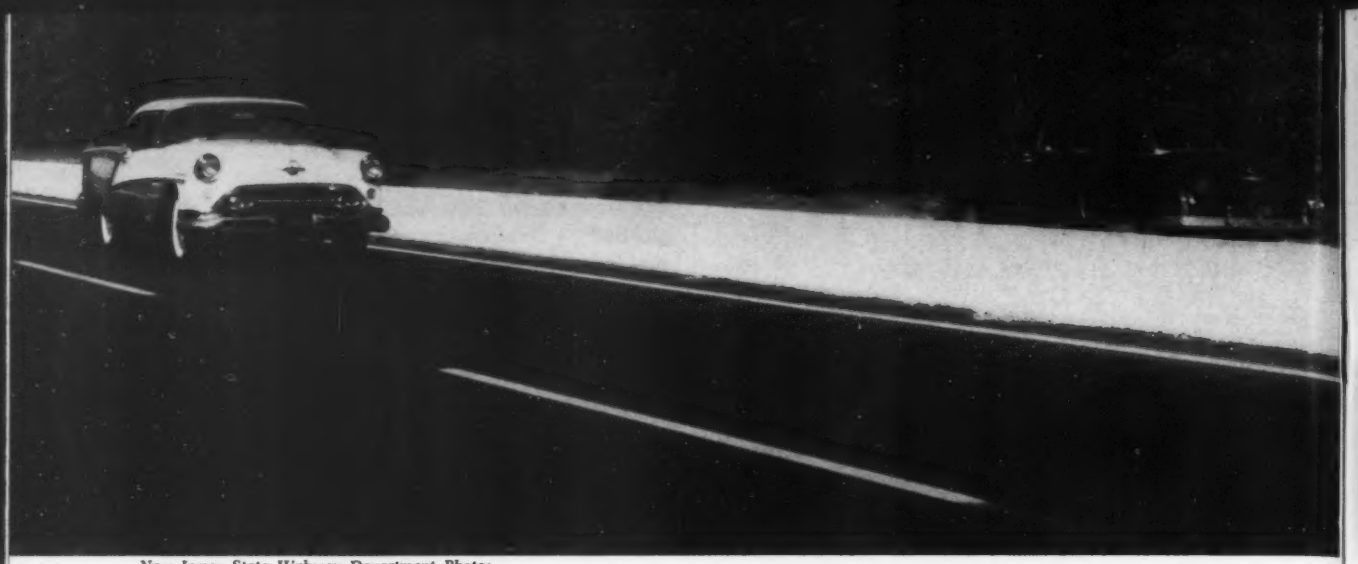
Four-mile open channel in Lake Mälar, with ice three feet thick at the edges, is one of Sweden's successful bubble installations for keeping shipping lanes free of ice blockage.
American Swedish News Exchange, Inc.



New Jersey State Highway Department Photos

ROADS FOR FEWER WRECKS

Highway renovation in New Jersey is a model in fatality reduction.

FAME EARLY TOUCHED the roads of New Jersey when they served as troop routes for George Washington and his colonial forces in 1776. Lately, the Garden State roads have been making history again with such 20th century innovations as creeper lanes, grade separations, center barriers and jug-handle interchanges.

Since 1954 New Jersey has spent $65½ million on these highway additions in a concerted effort to engineer safety into its more heavily traveled routes.

Backbone of the state's safety and highway redesigning program is the concrete center barrier. Barriers have been especially effective in reducing head-on collisions and fatal accidents, halting head-on fatalities completely in most areas.

Such deaths have occurred only in two areas where center barriers were installed; two persons died, compared to 17 in a comparable period before. On four-lane Route 22 in Hillside, used by more than 59,000 cars a day, there were 11 deaths caused by head-on collisions in three years preceding barrier installation. There has been one death in the three-year period since. In Englewood, 50,000 autos use four-lane Route 4 daily. In 33 months before construction of center barriers, head-on wrecks killed six persons. In more than three years since then, only one driver has died.

In its approach to highway modernization, New Jersey has taken a page from House Document No. 93, submitted to the 86th U. S. Congress by the Department of Commerce on the critical subject of national highway safety. One section states: "Obviously, all highways cannot be totally rebuilt. However, an effective and lasting solution to accident problems on existing highways lies in improving the highway design where the accidents take place."

New Jersey is doing just that. And nobody is watching the results with more interest than claim-laden insurance companies and their policy-holders, concerned with reducing automobile insurance rates. Our national traffic-accident toll is heading into a $9.5 billion a year total. Long-range road engineering programs may not of themselves be the answer. But coupled with intensified driver safety efforts, wreck-free roads will put us on our way to

To Safeguard, Separate

"Dramatic" is the way officials describe results of building new barrier curbs that now divide more than 70 miles of highway in New Jersey. Where erected, center barriers have practically eliminated head-on collisions. Construction is continuing at an accelerated pace, featuring a recently-improved design somewhat higher and narrower than the Route 1 barrier installed not long ago (right) and now in use (left). In eight areas where the barriers have been in use for some time, a poll of police produced the unanimous opinion that curbs are the most effective safety factor yet introduced. Road renovation also includes widening and stabilizing shoulders.

Jet-Age Intersections

Increased traffic has required construction of 211 new overpasses on New Jersey's state highway system since 1954. Costing between $350,000 and $1 million each, grade separations have reduced congestion and accident and fatality frequencies at principal intersections. This intricate overpass recently completed in the Camden area took the place of an old-style traffic circle that could no longer handle peak travel hour loads without becoming badly jammed. Several industrial plants nearby are benefiting from removal of the bottleneck. Another important aspect of the state's safety program: White lines are now painted on the outer edges of all roads.

Left Turns No Hazard

To permit safely controlled left hand and U turns, New Jersey has built 160 jug-handle interchanges costing an average of $50,000 each. Where continuous center barriers have been installed for long distances, jug-handles in pairs are required at about 1½-mile intervals. One of more common designs, this interchange on Route 1 connecting with local crossroad eliminates all turns from within active traffic lanes and reduces delays of past caused by vehicles slowing to leave the main highway. After entering interchanges, left and U turn traffic usually crosses main highway under traffic signal control. Jug-handles are varied greatly to suit location.

Big Help On Hills

Creeper lanes have been successful in improving safety records on many of New Jersey's two-lane highways in rolling or mountainous areas. Built right alongside existing pavement, an extra lane in the uphill direction segregates slow-moving vehicles and stops risky passing attempts by other drivers. Regular traffic is permitted to maintain normal travel speed. A total of 33 creeper lanes have been constructed in five years at an average cost of $70,000 each.

Roads For Fewer Wrecks

protecting lives and property and cutting insurance costs.

The highway engineering enigma as pinpointed by House Document No. 93 is this: Many of the nation's roads constructed two or three decades ago remain in service today with design features that are obsolete. New Jersey road planners verified this all too quickly in studies made for their safety projects. They discovered traffic volumes were more than 100 per cent above design capacity on some sections of highway notorious for bad accidents.

Alarmed, they set about projecting a master program for the state in a foreseeable future that looked forbidding. By 1975, New Jersey auto registrations will increase more than 50 per cent, to nearly 3.7 million. State highway travel is expected to climb from 22 billion to 47 billion miles a year, a 135 per cent added load for state roads.

The problem was summed up financially in Highway Commissioner Dwight R. G. Palmer's proposed budget for 1960-1961, urging sufficient appropriations to continue matching all federal funds plus a 10-fold increase in funds for construction projects ineligible for federal aid. The total budget proposal is for a record-shattering $215 million in state funds for fiscal operations beginning July 1, a sum which dramatically highlights highway needs in a single state.

Federal planners have pointed out that even when the massive new Interstate System is completed, it will carry only 20 per cent of the nation's traffic. If the rest of the traffic is to be handled safely and efficiently on our other highways, New Jersey's example in reconstruction, rehabilitation and improvement is coming none too soon.

New Jersey, fortunately, isn't the only state successfully re-engineering its roads, but it claims a unique "first" unlikely to be matched by any other state. Garden State officials researching their highway problems uncovered a legitimate Russian "first."

It seems that the idea for wood plank roads reached New Jersey about 100 years ago, after originating in Russia in the early 1800's. Sawed timber offered smooth, cheap thoroughfares, and New Jersey built 25 of them. But life of the planking turned out to be only about five years. New Jersey is counting on its center barriers, creeper lanes, grade separations and jug-handle interchanges to do a far better job than that. ⊙

Insurance Commissioner Harry S. Smith, Zone 2 representative and vice chairman of the NAIC's federal liaison committee.

CLOSE-UPS OF OUR COMMISSIONERS

DELAWARE'S SMITH

FAR FROM being a specialty of the space age, automation on the Delaware scene has just turned 175 years old.

In 1785, two years before Delaware became the first state to ratify the Constitution, Oliver Evans, of Newport, unveiled his crude but automatic flour-milling machinery. The invention raised mill production twenty-fold and has been called the greatest single aid to the First State's economic recovery from the Revolutionary War.

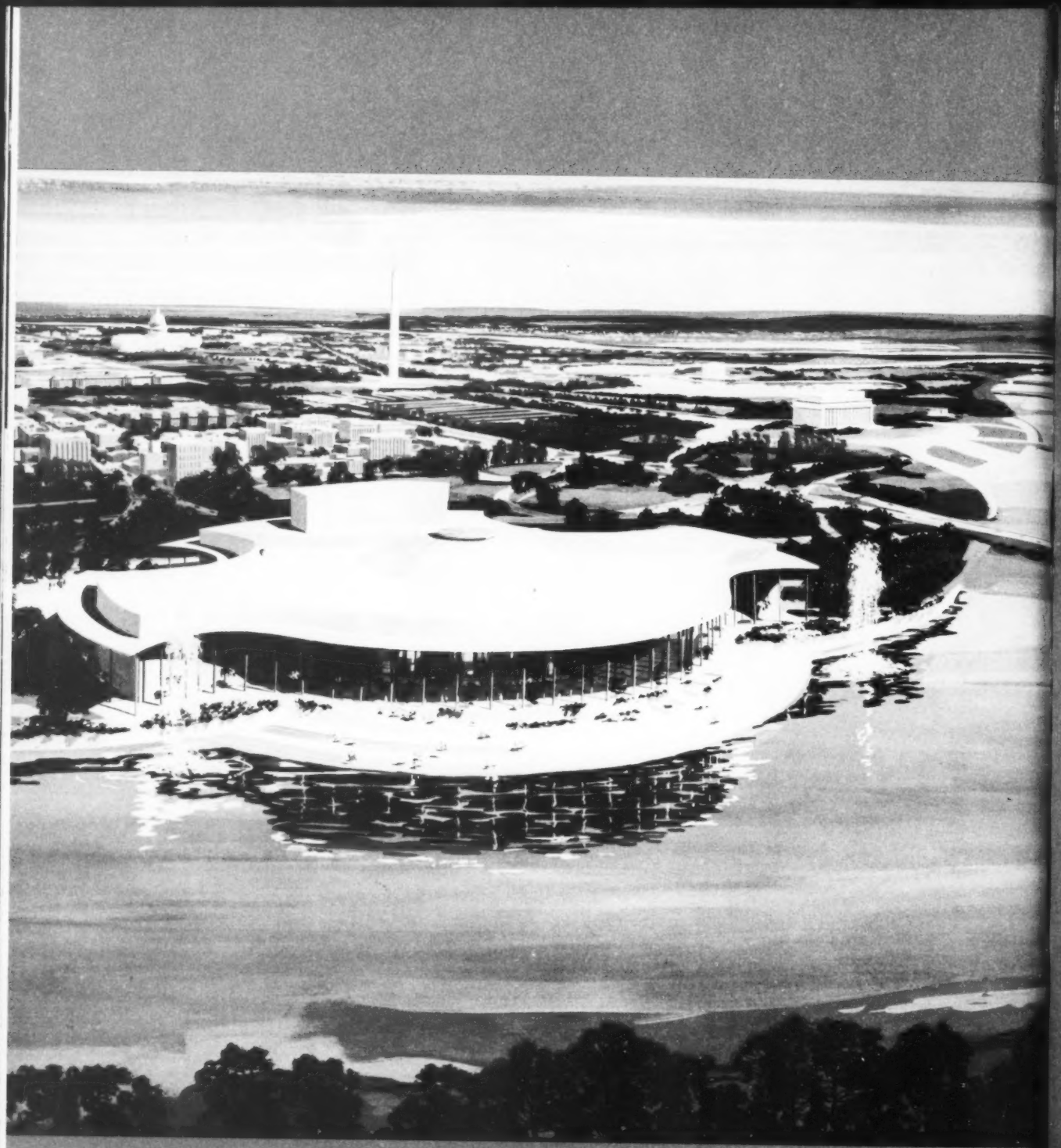
Even in those pre-electronic days, location was one of Delaware's fortes. Today, 30 per cent of the U. S. population lives within a 300-mile radius of the state. A remarkable market for Delaware firms, these consumers have personal incomes amounting to more than one-third of the national total.

Low taxes are another of Delaware's attractions and are partly responsible for the fact that nearly one-third of the firms listed on the New York Stock Exchange are Delaware corporations. Spurred by industry's inclination to settle in the First State, a 550-company insurance business has developed, currently recording more than $65½ million in premiums and paying in excess of $1½ million in fees and taxes annually.

Setting the pace in fire and casualty protection, mutual insurance recently reported a 100 per cent increase in annual direct premiums written. Five of Delaware's domestic mutuals have been active for more than 100 years, with the New Castle Mutual Insurance Company of Wilmington celebrating its 110th birthday this year.

Delaware's Insurance Department just observed a noteworthy anniversary of its own—its 80th year of operations. The department has been headed since 1955 by Harry S. Smith, the state's 18th insurance commissioner.

A veteran of more than 10 years in the life insurance business, Smith attended Washington College in Chestertown, Maryland, and served as a technical sergeant in the U. S. Army during World War II. Following his discharge, he was general manager of a loan and insurance company for three years, and for five years was associated with a Georgetown automobile firm as staff member and sales manager.

Smith has been named to a number of committees by the National Association of Insurance Commissioners, including those concerned with fraternal insurance, rates and rating organizations, unauthorized insurance and federal liaison. A Methodist church board member, he is active in the Sussex County Farm Bureau and the Cavaliers Club of Wilmington. Delaware's commissioner is also a 32nd degree Mason, a former Kiwanis club president and American Legion post commander. ⊙

Delaware's leading industry, chemical manufacturing, dates from 1802, includes massive duPont pigment plant at Newport.
Delaware State Development Department